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Mobile Number Portability in Turkey: An Empirical Analysis of Consumer Switching Behavior

Tülin Durukan
Department of Business Administration, Kırıkkale University, Kırıkkale, Turkey
E-mail: t.durukan@kku.edu.tr
Tel: +905324471968

İbrahim Bozacı
Department of Business Administration, Kırıkkale University, Kırıkkale, Turkey
E-mail: iborganizer@gmail.com.tr
Tel: +905065082652

Taylan Taner Doğan
Department of Economics, Kırıkkale University, Kırıkkale, Turkey
E-mail: teylir@gmail.com

Abstract

Mobile number portability is defined as a system that allows consumers to change operator without a necessity of changing the mobile phone number. Since it gives consumers the chance of giving service from any operator whichever they want, it not only increases competition level in mobile communication market and also it increases consumer welfare. With a consumer oriented perception, toward the aim of this study, the effects of the mobile number portability application are examined theoretically at first. Then, the relationships among "mobile number portability application satisfaction", "perceived public illumination activities" and "knowledge (information level) about the application" with "the intention to change the operator (switching intention)" are scrutinized and the results are interpreted. Especially nowadays the global crisis is tried to overcome, taking into consideration of results, which is obtained from such scientific studies, is crucial to reach the aimed results of these kind of consumer centric regulations.

Keywords: Mobile Number Portability, GSM and Competition, Mobile Telecommunication Market

1. Introduction

The implementation of the MNP at 9 October, 2008 in Turkey allows consumers to take service to the provider they mostly want, which has increased the competition in the marketplace and lead the firms to make unexpected strategies in price and quality. The providers tried to affect the existing subscribers and possible consumer losses by focusing on factors, like quality, price, the qualification of being the world leader and discounts; more specifically, unlimited talking/messaging tariffs, every way tariffs and boundless bonuses.

In the mobile telecommunication sector which has oligopoly characteristics, like every other place in the world, mobile number portability increases the competition, protects the consumer, allows them switch the provider easier than before and decreases the costs of changing provider. But the intended results can't be obtained as seen in many countries. This situation lead us try to understand

the mobile number portability properly and make some researches, and analysis from a different point of view to obtain more successful results from the application. Under this framework, first, the general condition of market, the experiences of other countries and the effects of the application were investigated. Moreover, the subject is scrutinized different but thought to be important point of view by exploring the relationships among variables, which are consumer consciousness, MNP satisfaction, perceived public illumination activities and operator switching intention.

Studies about the subject centered around the effects of the brand changing behavior, switching costs, consumer satisfaction and loyalty on provider changing intention. In his recent research Ürper (2009) finds relationships for both consumer satisfaction and the switching tendency, and perceived price and the switching tendency. Buehler and Haucap (2003) explain the MNP and its effects with mathematical models. Furthermore, Buehler, Dewenter and Haucap (2005) investigate the MNP and its effects for the European region. Shin (2006) examines the reflections of the system for America, Shin and Kim (2008) try to understand the relationships between the variables of customer satisfaction, switching intention, switching barrier, consumer loyalty, switching costs, quality of service and perceived price. In addition to these, there are some comprehensive studies that aim to measure the costs and benefits of the system in many countries.

2. General Structure of the Mobile Telecommunication Market in Turkey (GSM, Global System for Mobile Communication)

When the general structure of the mobile telecommunication market in Turkey is observed, the very concentrated environment is seen explicitly. Namely, there are only a few firms that operate in the industry. There is a negative relationship between concentration and competition. As the concentration in the marketplace increases, the competition decreases. (Durukan et al., 2009). The companies in Turkey are Turkcell, Vodafone, and Avea and their market shares in 2009 are shown in Table 1 below.

Table 1: The Mobile Telecommunication Market Shares of Companies in Turkey

Operator	Subscriber Number (x1000)	Market Share (%)	Kind of Network
Turkcell	35.946	58.0	GSM
Vodafone	16.114	26.0	GSM
Avea	9.916	16.0	GSM
Total	**61.976**	**100**	

Resource: ITU World Telecommunication/ICT Indicators Database, 2009

Oligopoly describes a market structure that consists of only a few and big rival firms, and the changes in the production of each firm can affect the market price. The non- competitive environment is resulted from the prices that are determined with the informal gentlemanliness agreements, prevents the entry of new firms to the market and also the consumers are cheated with huge product and service prices (Durukan et. al., 2009:75-86).

A raise seen in the monthly average revenues of operators gained from per subscriber is 12.8 TL by the end of the year of 2007. As seen from Table 2, Net sales revenues of all firms are also increasing year by year.

Table 2: Net Sales Revenues by the Firms

Net Sales (TL)	2004	2005	2006	2007	2008
Turkcell	4.993.461.000	5.858.383.080	6.417.661.108	7.483.035.848	8.016.051.327
Vodafone	1.015.000.000	1.413.023.000	1.380.263.980	2.614.000.000	2.633.828.191
Avea	691.016.292	1.065.827.838	1.239.577.125	1.655.490.115	1.973.025.289

TA, 2009

3. Mobile Number Portability System

3.1. The Objectives of MNP

Even the most supporters of the free market economy agree on the view that market best works with some regulations, well thought and designed regulations may encourage competition in the market and ensures the fair markets for products (Kotler et al., 2005;86). Under this framework the two major aim of the MNP can be mentioned as stimulating the competition and protecting the rights of the consumers.

From *the law of competition and politics* point of view, the reasons of government intervention are to reply the market imperfections, restrict the abuse of market power and increase the economic efficiency. To facilitate the process of transition from monopoly to competition in the sectors that are thought as natural monopolistic character, like energy, telecommunication and natural gas, the government intervention is needed. For this intervention, governments set up regulatory agencies in many countries (Sectoral Researches and Strategies Board, 2003).

Both theoretical and empirical researches show that switching costs reduce the market competition, result in less product quality with higher prices and lead to less consumer welfare as well. (Maicas et al., 2009;1-10). Mobile number portability system is introduced by governments to alleviate these costs and barriers. But the sufficiency of the system especially for early years is always controversial.

When the introduction of MNP in America is reviewed, 30 million subscribers were expected to switch the operators within the first year of MNP introduction. However, only 7.8 million Americans switched from one carrier to another (Shin, 2005). Similar experiences occur also in other countries and the need of understanding the reasons of such unwanted situations appears to obtain better results from the application.

3.2. Mobile Number Portability in the World

Some European countries delayed the implementation of MNP for various reasons. For example, Germany postponed the initiation because of the lack of appropriate technical solution. Also, Austria delayed the introduction of this service for several times, because while smaller Austrian operators like Tele.ring and Tele2 agreed on MNP, the larger operators, including Mobilkom and TMobile, were uncertain about introduction of MNP (Shakouri et al., 2004).

Nera (2003) (National Economic Research Associates) examined the usage of MNP for England and for the first two years after implementation, only %12 of subscriber changed the operator. It is suggested that the difficulty of using MNP during the first years after implementation may explain its unpopularity: porting a number originally took an average of 25 days. When the delivery time was reduced to five days on average, take-up increased to about 18% for residential customers and 80% for businesses (Lyons, 2006).

Table 3: Mobile Number Portability in World

1997	Singapore
1999	England (The first user in Europe), the Netherlands, Hong Kong
2000	Spain, Switzerland
2001	Denmark, Sweden, Norway, Portugal, Australia
2002	Italy, Belgium, Germany
2003	Finland, France, Austria, Greece, Ireland, Iceland, Luxembourg
2004	Lithuanian, South Korea, Slovakia, America (as a whole)
2005	Czech Republic, Estonia, Latvia
2006	Croatia, Malta, Poland, Slovenia
2008	Bulgaria, Macedonia, Romania, Turkey

Resourc: (97-2004);ECC Report 2003, (2004-2008);Institution of Information Technologies and Communication, 2009

3.3. Mobile Number Portability in Turkey

3.3.1. The Preparation of Legislations

In Turkey, *the law of MNP* was introduced by publishing in the official gazette at 01.02.2007. By the rules of the mentioned law, the MNP which is described as the ability of changing operator without changing the existing telephone number is regulated.

After specifying the technical properties of the system, "the methods and principles about the MNP implementation process" was published at the date of 01.05.2008.

3.3.2. The Construction of Technical Groundwork

The system was founded at 09.05.2008 under the Telecommunications Authority. The basic functions of NPS (Number Portability System) were determined as;

- The responsibility of *bridge* that ensures the communication between operators while number is transferred
- The function of database keeps the data about the transferred numbers.

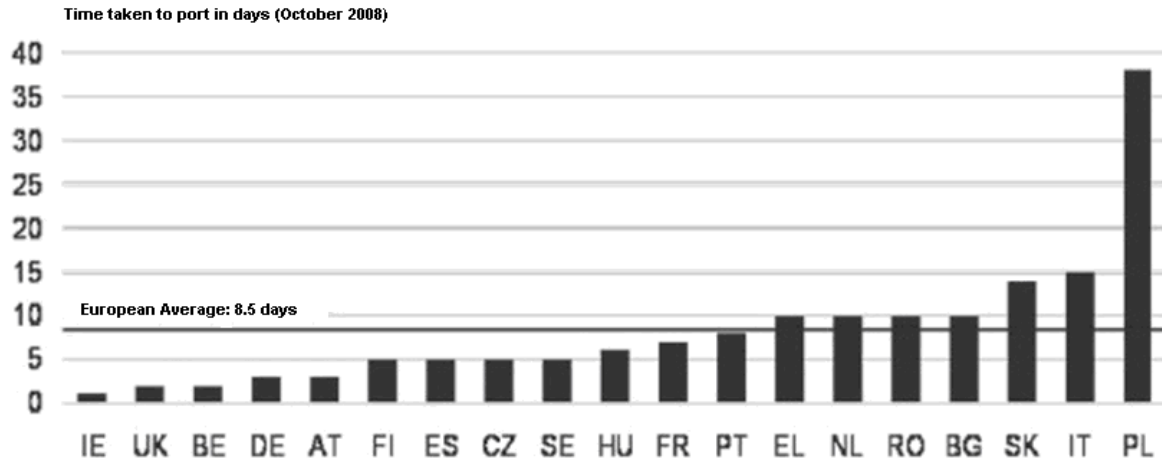
The test studies that the constant and mobile companies were completed successfully at 14.10. 2008 and the practice started at 9.11. 2008. According to this,

MNP system has three major steps;

a) Appling the new operator,(Receiving firm),
b) Transferring the application through NPS to old operator (transmitter firm) and notification,
c) Realization of transferring (Telecommunications Authority (TA), 2009; Ankara).

It is specified that this process take maximum 6 days by TA. Once this time is compared with the European countries, the value is better than the European average, but higher than many other countries as seen in the Figure 1.

Figure 1: Operator Switching Time



Resource: European Commission, Progress report on the single electronic communications market 2008 (14th Report), 24 March 2009

4. The Effects of Mobile Number Portability

4.1. Benefits

Because of many reasons, like changes in the service innovations, demand structure, learning the similarity between offerings of service providers and the demand, changes in the price and quality problems, significant number of consumers change the operator at a particular time after the first mobile subscription at least one time. (Lyons, 2006;1-32). Thanks to the mobile number portability

system, the sensitivity of consumers to these factors increases and consumers can chose the company that best fills their expectations.

With a consumer viewpoint, it is possible to summarize the benefits of the system with five major titles. First of all, by letting the subscribers benefit from the advantages of all possible choices that resulted from the more competitive environment in the sector, it provides benefits like lower prices, higher quality and the wider range of services. (Shin, 2005; 1-14). Furthermore the users who change the operator, even the MNP was not exist, get rid of the unfavorable conditions like informing the acquaintances, missed calls or etc. And the users, who change the operator only at the time of MNP exists, benefit by crossing the operator which provides the appropriate service for the expectations of them. Further, the calling subscribers don't have to suffer to find the new numbers of her/his friends, when it is needed to communicate with them. The reality of retransferring of property rights is important, especially for special numbers. (Buehler et al., 2005;1-20). For example the numbers start with 532 may imply prestige, experience, esteem or etc. in Turkey. So the users of them have a lower tendency of changing these prestigious numbers. To summarize the benefits;

Table 4: Benefits of Introducing MNP

Type of Benefit	Applies to	Benefit
1A	Users who switch even without MNP	Avoided Costs of Number Change (e.g., informing users, missed calls)
1B	Users who only switch with MNP	Benefits of moving to a more preferred operator
2	All Users	Intensified Competition
3	Caller	Avoided costs of finding changed numbers
4	All Users	Increased investment in number value due to reallocation of property rights

Resource: Buehler, Stefan. Dewenter, Ralf.Haucap,Justus.(2005), Mobile Number Portability in Europe, Zurich

From the institutional consumers' viewpoint, firms save costs which results from not having a necessity of changing the business documents, informing the potential callers and possible business losses when the number is changed. All service providers benefit from MNP by allowing them to compete fairly and directly for customers by promoting their service and pricing advantages. *(Malaysian Communications and Multimedia Commission.(2005), Public Inquiry Paper, Malaysia).*

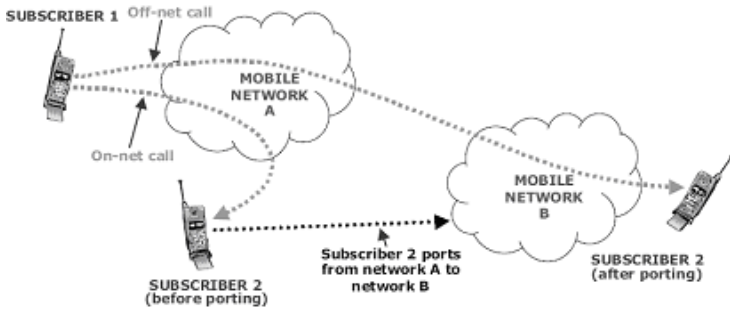
In addition to fact that MNP has many reflections, like complex consumer preferences, price, demand elasticity, market share and investment decisions, when the issue is evaluated as a whole, the researches reveal that it facilitates to change the operator and lead the firms increase the service variations with more suitable prices to keep the present consumers.

4.2. The Costs of MNP

It is clearly seen that MNP system creates costs for operators rather than subscribers. Operators encounter both direct and indirect costs. Direct costs are the costs associated with the founding and performing the new system. If we mention these set up costs more comprehensively which associated with such activities, they are developing and designing activities of the required software, updating costs of the software, building the procedural and functional methods and developing a functional support system. These are fixed costs that does not depend upon the number of real operator change. (Buehler et. al., 2005;1-20). Besides there are costs while transferring process occurs, like offerings to consumers, communications between receiving and transmitting operator, the managerial activities related with number transferring and transfer traffic costs etc.

Indirect costs are loss of *tariff transparency* which defined as the difficulty of realizing the different networks when making calls. Figure 2 shows this problem more clearly.

Figure 2: Loss of Tarif Trancparency



Source: ECC Report 31,2005

By this way, since the pre numbers don't represent the network, if the calling prices are different between operators, consumers can not realize the real price of their callings. (Srinuan et al., 2009;1-20). By sending warning tune to subscribers who call the transferred numbers, tariff transparency problem is tried to overcome in Turkey.

In general the benefits of MNP exceed the costs and so the authorities follow a tendency to introduce it in order to increase consumer benefits and social welfare.

5. The Effects of MNP in Turkey

The effects of mobile number portability on several factors are investigated like mobile traffic, subscriber quantity, churn rate, penetration, market concentration, competition, transferred mobile numbers and monthly usage.

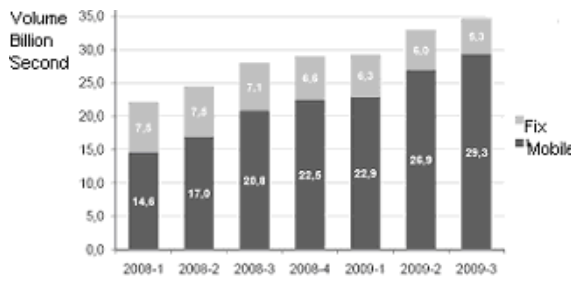
5.1. The Effects on Mobile Traffic

The mobile to mobile traffic makes the much of the total telecommunication traffic, (In 2009 for the first quarter; %75.5, for the second; % 79.9). If we compare total traffic by using quarterly data, we find an increase in the share of mobile to mobile traffic and a decrease in the share of fixed to fixed traffic in the total traffic.

The mobile traffic was actualized at 23 billion minute in second quarter of 2009 while it had been 14,6 billion minute in the first quarter of 2008. As the traffic of mobile to mobile in first quarter of 2009 is increased %57 with compared to the same quarter of previous year, the fixed to fixed traffic is decreased by %17. It is found that rise in calls from mobile to fix numbers are %26 and % 31 in the first and second quarters of 2009, it enables to see the effect of MNP more significantly.

Especially by the introduction of mobile number portability in 2008, it is thought the increasing in the mobile traffic rates because of the various advantageous promotions have been intensively offered after the introduction. (Information and Communication Technologies Authority, 2009). The Figure 3 shows the changes in the telecommunication traffic:

Figure 3: Total Three Monthly Call Traffic Quantity

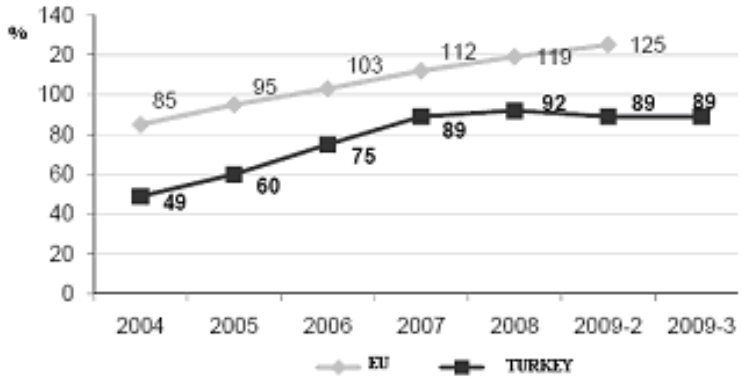


Source; ICTA, 2009

5.2. The Effects on Subscriber Quantity, Churn Rate and Penetration

There are 63,6 million mobile subscribers, which refers to % 89 penetration at the end of the July 2009. It is seen that mobile number subscribers and penetration have been decreasing since the beginning of the 2009. It is evaluated that the reason of the decreasing is the invalidations of second subscriptions/numbers because of *every way tariffs* that the companies offer after the introduction of MNP. In addition to this, the quantity of 3G subscribers reached to 5.4 million at the end of July. (ICTA, 2009) Figure 4 illustrates the penetration rates with respect to EU averages comparatively:

Figure 4: Penetration in Turkey and EU

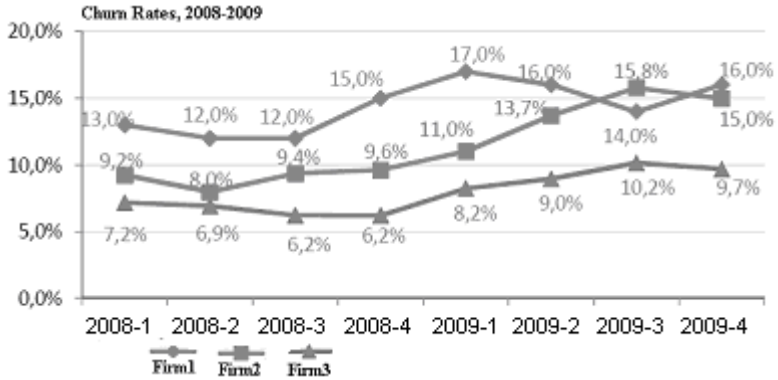


Source: Comreg, 2009

Moreover the subscriber quantities for all three companies follow a decreasing path after the system. At the third quarter of the 2009, the decreasing is %0, 9 for Turkcell, %2,8 for Avea and an increasing of % 4,9 of Vodafone is seen in response to the previous quarter.

Churn rate is a ratio in order to measure quantity of lost consumers. For a given period, it is calculated by dividing the number of consumers that give up the company to average quantity of existing consumers a company owns. For the years of 2008 and 2009, the churn rates of companies in Turkey are shown as below at the Figure 5:

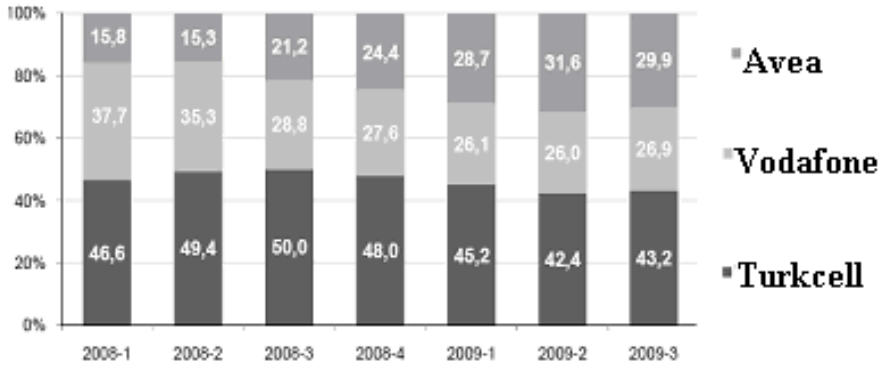
Figure 5: Churn Rates of Firms



Source: ICTA, 2009

Furthermore, after the introduction of the system, in terms of market shares according to mobile traffic of companies, an increasing from %21 to %30 for Avea, a decreasing from %29 to %27 for Vodafone and decreasing from %50 to % 43 for Turkcell is seen. (ICTA, 2009). As a result of these information, although there exists a decreasing in the subscribers of the Avea, it increased the market share in terms of mobile traffic. In other words, it may be concluded that it serves lower prices and much more talking for the consumers. Figure 6 illustrates the market shares of the operators;

Figure 6: Market Shares in Terms of Mobile Traffic (%)



Source: ICTA, 2009

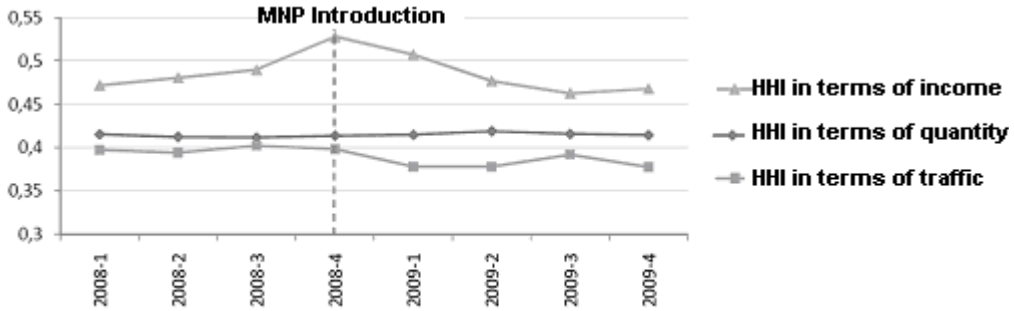
5.3. Market Concentration and Competition

When we look at the general condition of the market, the lack of competition is seen explicitly. The Herfindahl – Hirschman index, which is a tool that used to measure the concentration level in a specific market, is applied to Turkey mobile telecommunication market by Telecommunications Authority. And it volatiles between 0,56 and 0,42. The index follows a tendency of decreasing and the value of 0,5578 in the year of 2001 dropped back to 0,4234 level in 2007. This decreasing tendency points out an increasing level of the competition in the sector. The reason of this situation is explained as the entry of third company to the market and becoming subscriber allocation more balanced. (ICTA, 2008).

Till the other operator enters the market in the year of 2001, the market share of Turkcell was about %70s. In addition, as an increasing in market share of Avea, which enters the market later, there is seen a little decreasing tendency in the market share of the Turkcell after the year of 2003. Besides, the market share of company is seen to reach the levels of lost before, after acquiring Telsim. (Tözer and Güngör, 2008). But when the conditions are compared the developed with the developing countries, the lack of competition in Turkey is clearly revealed.

After introduction of MNP, the Herfindahl – Hirschman is decreasing. The result generated from Figure 7 is that the competition is significantly increased especially in terms of income and it will be expected to increase as the MNP is more widely used and learned by the consumers in medium run.

Figure 7: HHI Index 2008, 2009

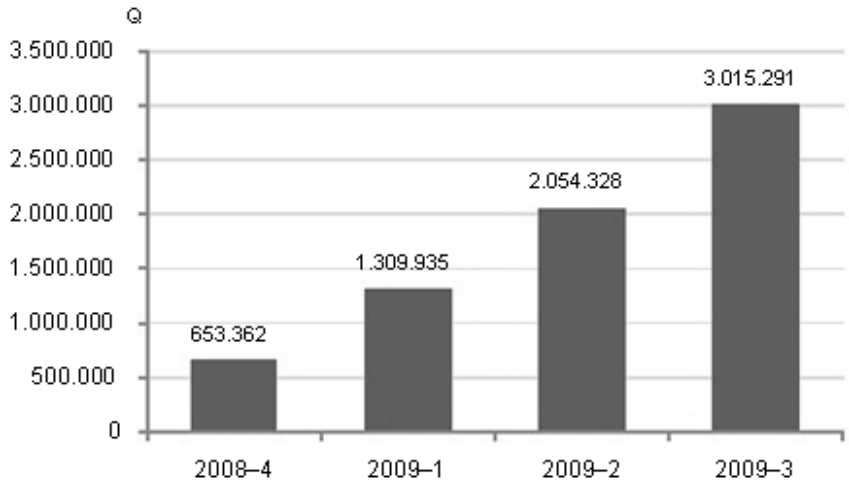


Source: ICTA, 2009

5.4. The Quantities of Transferred Mobile Numbers

By the end of the September 2009, the total carried number quantity occurred around 7,5 million and in the third quarter the carried number quantity is 3 million, which represents an increase of % 47 with respect to previous quarter. Figure 8 shows the progress quarterly;

Figure 8: Total Carried Numbers

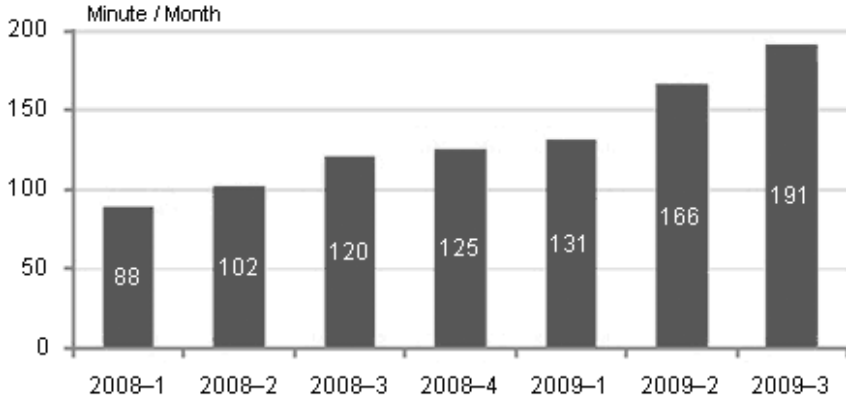


Source: ICTA, 2009

5.5. Changes in the Monthly Usage (MoU)

MoU is described as the average talking time of one subscriber and it increased consistently after the introduction of MNP. The MoU values, which follows an increasing trend, is realized at 131 minute for the first quarter of 2009 and 166 minute for the second quarter that indicate a rise of %27.

Figure 9: Monthly Usage (MoU)



Source: ICTA,, 2009

6. An Empirical Analysis about Consumer MNP System Satisfaction, Consumer Awareness, Perceived Public Illumination Activities and Effects on Consumer Switching Intentions

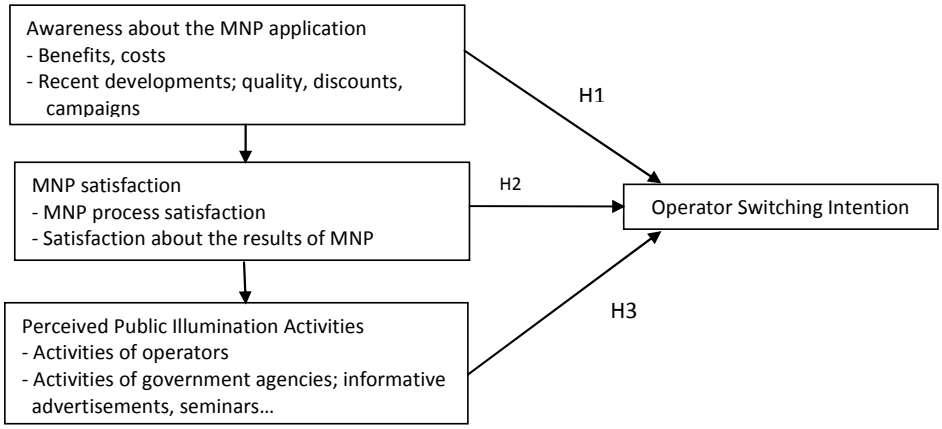
6.1. The Importance, Goal, Method and Hypotheses of the Research

The globalizing world necessitates being customer centered and taking into consideration of their problems, wants and expectations. As time goes by, customer oriented practices and the applications that lead more competitive environments in markets and higher quality of service/good, increases inevitably. This research has an importance to ensure the better understanding of consumer expectations and identifying the faults, failures and defects of consumer oriented applications. In the research, measuring the MNP awareness (information level) of consumers, MNP process satisfaction,

perceived public illumination activities and relationships of them with the consumer switching intention are targeted. To reach this target the hypothesis listed below are constructed;

- **H_1:** There is a meaningful relationship between the MNP awareness of consumers and consumer switching intention.
- **H_2:** There is a meaningful relationship between MNP satisfaction (about process and results) and consumer switching intention.
- **H_3:** There is a meaningful relationship between perceived public illumination activities and consumer switching intention.

Figure 10: Research Model



6.2. The Population and Sample of the Research

The population is determined as underground students in Kırıkkale University which consist of 2122 people. The needed sample quantity for an 2200 population and a % 5 significant level is 327. (Altunışık et al., 2007:127). Under this circumstance the obtained data is provided by survey which is filled by 350 students.

6.3. Survey Form

In order to arrange survey form, a) the study of Ürper (2009) is utilized for identifying the demographic information, time of using mobile phone and the operator mostly used, b) to construct the questions which aims to measure the awareness about the mobile number portability, the feasibility study of NERA(1998) which displays a cost/ benefit analysis is analyzed and used, c) at the generation of the questions which aims to measure MNP satisfaction, the study of Eroğlu (2005) which is about consumer satisfaction is also evaluated.

6.4. The Findings and Analysis of Research

a.) Demographic Findings

The respondents between the ages of 19 and 24 consist of % 98 of total. When looked at the monthly income, it is seen that %91,1 of the total has 750 TL or lower. In the gender allocation, there is an imbalanced situation that the females consist of % 66, 9 of total. And a rate of % 79 has been using mobile phone less than 8 years.

Table 5: General Profile of Participants

Demographic Specifications		F	%
Age	16-18	1	,3
	19-21	261	74,6
	22-24	82	23,4
	25-27	4	1,1
	28 and above	2	,6
	Total	**350**	**100,0**
Income/ Monthly	300 and below	165	47,1
	301-750	154	44,0
	751-1000	13	3,7
	1001-1500	9	2,6
	1500 and above	9	2,6
	Total	**350**	**100,0**
Gender	Male	234	66,9
	Female	116	33,1
	Total	**350**	**100,0**
How many years have you been using mobile phone?	0-2	11	3,1
	3-5	80	22,9
	6-8	185	52,9
	9-11	65	18,6
	12 years and above	9	2,6
	Total	**350**	**100,0**

At the time of the survey conducted, with a rate of %73 (258 person) Avea is at the first line within the most preferred operators. Turkcell follows it with a rate of %29,1 (102 person) and Vodafone is the last with a rate of % 25,1 (88 person). It is understood from these values that the students who has no or little income and dependent economically prefers Avea in general.

Table 6: Used operator at present

Operator	F	%
Avea	258	73,7
	92	26,3
Total	**350**	**100**
Turkcell	102	29,1
	248	70,9
Total	**350**	**100**
Vodafone	88	25,1
	262	74,9
Total	**350**	**100**

While the users of same operator since starting to use the cell phone consist of %38,8 (136 person) of total respondents, the rate of % 61,14 (214 person) do not use the same operator. And % 19,62 of total operator-switched people has changed the operator after the MNP application and a mass of % 80,38 (172 person) changed operator before the MNP. As an information obtained from

ICTA(2009) the rate of the switching the operator after the MNP is % 11,8 that conducts a similarity to result generated from the survey which is %12 (42 people) in total subscribers.

Table 7: Changing Time of Operator

		F	%
Have you been using the same operator since starting to use mobile phone?	Yes	136	38,86
	No	214	61,14
	Total	**350**	**100**
Changing time	Before MNP	172	80,38
	After MNP	42	19,62
	Total	**214**	**100**

Table 8: The reason of Preferring the Same Operator

Variable	F	%
Being used the family members the same operator	88	25,12
Most people uses the operator	72	20,57
It is economical	68	19,42
The level of inclusion is good	62	17,71
Being used my friends the same operator	60	17,18
Total	**350**	**100**

When the reasons of not changing operator since consumers start to use cell phone, are evaluated, the choices of being used by family and others, and the economic considerations have a predominant role in the results.

b.) Factor Analysis

The questions in the survey are conducted to a reliability analysis and the questions that do not represent the average value are omitted and the cronbach alpha is determined as 0,78. The value of KMO (Kaiser- Meyer-Olkin) which shows the appropriateness of factor analysis is determined as 0,776. As the results of the factor analysis, five factors that explain %52,2 of the total variance are specified. And when the variables that determine the factors and the factor weights are taken into consideration: Factor 1; "Switching Intention", Factor 2; " Awareness of MNP; Recent Improvements ", Factor 3; "Perceived Public Illumination Activities", Factor 4; " MNP application satisfaction", Factor 5; " Awareness of MNP; Benefits" conditions are symbolized as above.

The results obtained from the correlation analysis between designed factors as below in the table- 9;

Table 9: Correlation between Variables

	(F1) Switching Intention	**(F2) Awareness of MNP; Recent Improvements**	**(F3) Perceived Public Illumination Activities**	**(F4) MNP application satisfaction**	**(F5) Awareness of MNP; Benefits**
F1	1	(r=0,095) 0,077	(r=0,217)** 0,000	(r=0,17)** 0,001	(r=0,084) 0,116
F2	(r=0,095) 0,077	1	(r=0,114) 0,033	(r=0,460)** 0,000	(r=0,347)** 0,000
F3	(r=0,217)** 0,000	(r=0,114) 0,033	1	(r=0,146)** 0,006	(r=0,156)** 0,004
F4	(r=0,17)** 0,001	(r=0,460)** 0,000	(r=0,146)** 0,006	1	(r=0,403)** 0,000
F5	(r=0,084) 0,116	(r=0,347)** 0,000	(r=0,156) 0,004	(r=0,403)** 0,000	1

As a result of the correlation analysis, there can't be seen a relationship between "the awareness of MNP" and "switching intention". So, the hypothesis of H1 is rejected. There is seen a significant and positive relationship between "the perceived public illumination activities" and "the switching intention" and hypothesis of H3 is accepted. Also, positive and significant relationship between "the MNP application satisfaction" and "the switching intention" is found and constructed hypothesis of H2 is accepted. In addition to these results, a meaningful relationship between the variables of "the awareness of MNP" with "the MNP satisfaction" and between "the perceived public illumination activities" with "the MNP satisfaction" is revealed.

Table 10: Summary of Accepted/Rejected Hypothesis

Hypothesis	Kabul	Red
H_1: There is a meaningful relationship between the MNP awareness of consumers and consumer switching intention		Reject
H_2: There is a meaningful relationship between MNP satisfaction (about process and results) and consumer switching intention.	Accept	
H_3: There is a meaningful relationship between perceived public illumination activities and consumer switching intention.	Accept	

7. Conclusion and Suggestions

At this study, besides the researches exist in the literature that deal with customer satisfaction, perceived price, switching costs, consumer loyalty and their relationships with the operator switching intention, an empirical research is conducted by taking into consideration the issue from different point of views: Relationships between the awareness of the consumer about the MNP, the perceived public illumination activities of firms and government agencies, MNP application satisfaction and operator switching intention have been tried to be investigated. And the found relationships among public illumination activities, MNP application satisfaction and switching intention, led us the opinion of the informing public about the benefits and costs of the system will contribute to reach the aims of the application. Furthermore, the relationship between "the awareness about MNP" and "the MNP application satisfaction" supports the view that as the system is rooted and adopted by consumers, switching rates will be increased like occurred in many other countries. The findings obtained from the research supports those transparent and non manipulative public illumination efforts (like programs, seminars, conferences, informative advertisements and other communication activities) of the responsive government authorities, institutions and companies about the details of the system will be very helpful to shorten and simplify the roads of reaching the targets of the MNP.

References

[1] Altunışık, R, R., Coşkun, S., Bayraktaroğlu, and E., Yıldırım, 2007. Sosyal Bilimlerde Araştırma Yöntemleri, Sakarya.

[2] Buehler, S., R., Dewenter, and J., Haucap, 2005. "Mobile Number Portability in Europe", [online] (cited *07.11.2009)* Available from< http://www.econpapers.repec.org/paper/risvhsuwp/ 2005_ 5f041.htm. >

[3] Buehler, S. and J., Haucap, 2004. "Mobile Number Portability", [online] (cited 07.11.2009) Available from < http://www.soi.uzh.ch/research/wp/2003/wp0303.pdf>.

[4] Durukan, T. and Ç., Hamurcu, 2009. "Mobil İletişimde Pazar Yoğunlaşması: Türkiye ile Kazakistan, Kırgızistan, Tacikistan, Türkmenistan ve Özbekistan Karşılaştırması", Karadeniz Araştırmaları", *Black Sea Researches*, 6 (22): 75-86.

[5] Electronic Communications Committee.(2003), ECC Report 31, Implementation Of Mobile Number Portability In Cept Countries

[6] Eroğlu, E., 2005. "Müşteri Memnuniyeti Ölçüm Modeli", *İ.U. Faculty of Business Administration Business Journali,*34(1):7-25.

[7] Grzybowskı, L., 2008. **"**The Competitiveness of Mobile Telephony across the European Union", *Int. J. of the Economics of Business*,15(1):99-115.

[8] Information and Communication Technologies Authority, Three Monthly Telecommunications Sector Report, 2009. Ankara, [online] (cited 07.11.2009) Available from <http://www.tk.gov.tr/ Yayin/istatistikler/ istatistikler.htm>

[9] Kotler,P., and G. Armstrong, 2005. *Principles of Marketing*, Eleventh Edition, PearsonEducation, New Jersay.

[10] Lee, J., Y., Kim, Y., Park, 2006. "Estimating the extent of potential competition in the Korean mobile telecommunications market: Switching costs and number portability", *International Journal of Industrial Organization*, (24), 107-124.

[11] Lyons, S., 2006. "Measuring the benefits of Mobile Number Portability", Trinity College Dublin, Ireland, pp.1-32.

[12] Maicas, J., Y., Polo, and F., Sese, 2009. "Reducing the level of switching costs in mobile communications: The case of Mobile Number Portability", *TelecommunicationsPolicy*, (33): 544–554.

[13] NERA and Smith System Engineering, 1998. Feasibility Study & Cost Benefit Analysis Of Number Portability For Mobile Services In Hong Kong, Final Report for Ofta, London

[14] Nigerian Comminications Commission, 2009. *Implementation of Mobile Number Portability in Nigeria,* Initial Consultation Paper.

[15] Özer, M., 1998. İktisada Giriş, 1.Edition, *T.C. Pubications of Anatolian University*, Eskişehir

[16] Smura, T., n.d.. "Mobile Number Portabılıty: Case Fınland", [online] (cited 07.11.2009) Available from <http://www.netlab.tkk.fi/u/tsmura/publications/Smura_MNP_2004.pdf>

[17] Shakouri, H., N., Tehrani, and M. Taheri, 2004. "A simple model to study the Mobile Number Portability (MNP) impact on dynamic behavi of a two-competitor mobile market: Stability versus Oscillations"

[18] Shin, D., 2006. "A study of mobile number portability effects in the United States", *Telematics and Informatics*, (24),1–14.

[19] Shin, D. and W., Kim, 2008. "Forecasting customer switching intention in mobile service: An exploratory study of predictive factors in mobile number portability", *Technological Forecasting & Social Change* (75):854–874.

[20] Srinuan, P. and E., Bohlin, 2009. "Mobile Number Portability: Evaluating the Swedish Mobile Market", [online] (cited 19.10.2009) Available from <http://www.ses.telecom-paristech.fr/.../S23%20-%20MNP%20in%20Sweden.pdf>

[21] Telecommunications Authority, 2008. 2007 The Report of Developments and Trends in Telecommunications Sector, Ankara.

[22] Telecommunications Authority, 2003. *Competition Policy*, Ankara

[23] Tözer, A. and G. Müberra, 2008. *First Symposium of Competition and Politics,* Denizli.(2008),İzmir,[online] (cited 22.10.2009) Available from < http://www.rekabet.gov.tr/ index.php?Sayfa=etkinlikkitapliste>

[24] Ürper, C., 2009. "Gsm Sektöründe Numara Taşınabilirliği Ve Operatör Değiştirme Davranışları: Üniversite Öğrencilerinin Numara Taşıma Niyeti Üzerine Bir Araştırma". (*Unpublished Master Thesis*), Eskişehir: Anadolu University Graduate School of Social Sciences.

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