

The Role of Information Technology in Patient Satisfaction

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Abstract. Competition comes into prominence in health field as it is in all the fields in the world and in Turkey. The companies pursue the recently established information systems and market fit closely in order to increase the competitive power. Turkey is experiencing quite radical transformations in health-care sector during the last 10 years. In this sense, the objective of the study is to determine the usage level of Central Physician Appointment System (CPAS) within the scope of technology acceptance model. When the context of the model is examined, the degree of turning the positive perceptions such as benefits, convenience that the customers perceive from this technology when they came face to face with this technology, to attitudes and behaviors is measured. As a result of the research, the electronic appointment system, which has started to be applied within the health-care sector, was considered positively on the basis of benefits and convenience and in parallel with this the their attitudes behaviors were affected positively.

Keywords. Patient Satisfaction, Central Physician Appointment System, Technology Acceptance Model, Information Systems.

JEL. C38, I18, L88.

1. Introduction

In order to provide the continuity of the right to life, which is the major right of humanity, the health-care system has to have a strong structure. When considered generally, one of the best indicators of development level among cities is the condition of health-care system. When the World countries are examined from the standpoint of the health-care system, it is observed that the role that the Government plays in the health-care market is quite dominant. In other words, the Government produces the health-care service herself and provides the finance of the service and therefore becomes the single power dominating the market. For this reason, the concept of competition is away from being a powerful factor within the health-care sector. However, it is observed that health-care services tend to compete with each other in our country for the last 10 years. The reason for this is that the services of the private medical establishments entering the market increased quality of the service provided and the new health-care services mentality emerging in the World. Within this mentality, the Government continues to provide protective health-care services, however, leaves the services directed at treatment and rehabilitation to the Market economy.

Both in the World and in Turkey, the importance of information technologies is rapidly increasing in health-care sector just like in all industries. The main objective is to increase the service quality and carry the costs to minimum level.

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While in the past public hospitals were close to innovations and they were oriented only to provide basic health-care services, in the recent years they started to increase the service quality and make their presence known. The adaptation process of public hospitals to the information systems in the recent periods rapidly bears the fruits. Central Physician Appointment System as a part of the Health Transformation Project of the Ministry of Health, which is one of the most important enterprises, is only one of the changes that the Ministry of Health executes within the scope of this project. In accordance with the definition of the Ministry of Health E-Appointment system is; “An application where the citizens can get appointments by calling 182 CPAS Call Centers from live operators from the hospitals and physicians they want, among the 2nd and 3rd stage Hospitals and Dental Health Centers under the Ministry of Health.” The objectives of E-Appointment system are; increasing citizen/customer satisfaction with better resource planning in the Hospitals (efficient and productive planning of labor and equipment usage), decreasing the length of the queues in the Hospitals, by means of measurement of resource usage and distribution (effective and productive usage of labor and equipment) in the Hospitals, increasing the presentation, efficiency and quality of the health-care services, helping the development of health-care policies with CPAS data. The efficient presentation of E-Appointment services will not only enable decreasing the illness load of the society, will also enable offering better and high quality health-care services in second and third degree treatment institutions and to be able to choose the doctor that the patient wants.

2. Conceptual Framework and Literature Review

In Turkey, health-care services generally take place in a governmental apprehension and therefore, majority of the health-care services are executed public hospitals. In addition to this, foundation hospitals and private hospitals are among the institutions offering health-care services in Turkey (Özkan, 2003). The first operation on behalf of health-care information in Turkey, the module whose name is pharmacy information systems, which is started to be applied in 1990's in social security institution hospitals. In years 1991 and 1995 ministry of health started the health-care information systems project and hospital information systems project within the scope of I. and II. Health-care projects in a partnership with World Bank (Ak, 2009).

There is a serious orientation to the cost cutting strategies in health-care institutions. In addition to the present applications, the role of information technologies in subjects such as efficient communication development, increasing productivity, increasing the health-care quality, developing patient and service providers' satisfaction and showing high performance increases. These technologies provide many benefits in health-care institutions (Tan & Hanna, 1994; Kuperman et al., 2000; Harris et al., 2005). One of these technologies is technology acceptance model.

Technology Acceptance Model (TAM), which is a model developed based on the Theory of Planned Behavior that was developed by Ajzen and Fishbein in 1980 and developed by Davis (1989), is a model developed in order to measure the computer usage adaptation of the users. This model that has been used in many studies starting from 1980 up to today, provides a beneficial structure and research in order to analyze the factors effecting the perceptions of the users (Handy et al, 2001).

There are four main elements at the basis of TAM. These are; perceived usefulness, ease of use, attitude toward usage and behavioral intention. This condition is displayed on Figure 1.

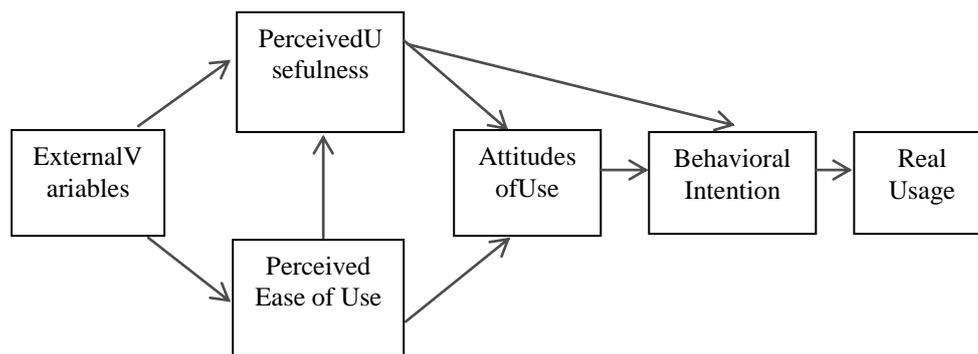


FIGURE 1: *Technology Acceptance Model*

Source: (Davis et al. 1989)

As it can be seen on Figure 1, the main indicators of the technology acceptance are perceived usefulness and perceived ease of use. These affect the attitude of users directed to technology usage and the attitude of users affects the intention toward the behavior. In accordance with the model, the intention of the users toward behavior affects the realized behavior.

The realized behavior is determined by the individual's behavioral intention and this intention is determined by the attitudes presented by the individuals (Chen et al., 2002). In the study, technology acceptance model is taken as a basis however; the model is adapted to the context of the study.

Lederer et al. (2000) have conducted many studies by using perceived ease of use, perceived usefulness, and attitude for usage and information technologies usage variables.

Schepers & Wetzels (2007) have examined the 53 studies about the technology acceptance model in their study. In 15 of these studies there are meaningful relationships between perceived usefulness and attitude, in 16 of these studies there are meaningful relationships between perceived ease of use and attitude, in 14 of these studies there are meaningful relationships between attitude and intention of usage.

Gibson & Seeman (2005) used technology acceptance model in their study where they measure the effect of electronic medical records technologies on the employees.

Tung & Cahng (2008) used the technology acceptance model in their study where they measure the conformity of the nurses of Taiwan central hospital to e-logistics information system.

In addition to this and similar studies, there are many studies where technology acceptance model variables are used. Venkatesh & Davis (2000), Van Scahik et al. (2002), Wu et al. (2008) have used perceived ease of use variable of information technologies in their study.

Davis (1989), Compeau et al. (1999), Handy et al. (2001), Han et al. (2005), Liu & Ma (2006), Duyck et al. (2008) have used perceived ease of use variable and measured the perception of individuals in information technology usage.

3. Methodology

3.1. The Objective and Limitedness of the Research

Since the objective of this study is to maximize the patient satisfaction in the health-care sector, in the study it is tried to determine which way E-application system affects the patient satisfaction. In accordance with this, the success of the factors that the E-Application service used affects the realized behaviors such as

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ease of use, perceived usefulness, attitude, intention and trust. Within this framework, the Technology Acceptance Model, which is a widely known model of Davis, is taken as basis. In the study, the factors partaking in the Davis's technology acceptance model were adopted in accordance with the context of the study. The study was conducted on the E-application users located in the city of Gümüşhane. Therefore, the results shall not be generalized.

3.2. The Universe and Sampling Process of the Research

The universe of our research comprise of patients in Gümüşhane. Convenience sampling method was used in determining the sample body. The sampling body of a universe consisting of 50.000 people with $e=5\%$ margin of error and within the reliability range of 95% has to be 384 (Yazıcıoğlu & Erdoğan, 2004). As a result, since the universe of the research is 50.000; the sample body has to be 384. In the research 420 surveys were conducted and 401 surveys were taken into consideration when deficient and faulty ones are eliminated.

3.3. Data Collection Method and Measurement Tool

In this research, survey method, which is one of the quantitative research methods, during the data collection process. The survey of the research was applied to 420 patients on date 07.07.2015. The survey form was applied with face-to-face interview method with the patients.

For the reliability of the data obtained as a result of the survey, SPSS 20 was used for reliability analysis and definitive statistical analyses and AMOS 20 package program was used for the validity analysis and analysis of the model. On the first section of the survey, 6 questions intended to determine the demographic features of the participants were used. On the second section of the survey, there 32 questions in total, which are composed of 6 questions stating the perceived usefulness within the technology acceptance model, 5 questions stating the perceived ease of use, 3 questions stating the attitude, 7 questions stating the real usage and 5 questions stating the question and confidence factors. The participants of the survey were asked to answer questions asked by reflecting their opinions about the questions. Survey questions were prepared in accordance with the five point likert scale and are; 1: I strongly disagree, 2: I disagree, 3: Neutral, 4: I agree, 5: I strongly agree. Gentry & Calantone (2002) defend in their study that more accurate relationship predictions may be made by informing the participants of the survey in advance about the technology stated in the researches. For this reason, a presentation text was used in the event that the patients participating in the survey are not informed about E-appointment. The presentation text was prepared as a short and informing text as it is stated in the studies of Armstrong & Overton (1971). The model that was conducted in accordance with the scale was tested structural equation model. In Structural Equation Model, how much the theoretical model that is determined at the first stage explains the data obtained with Goodness of Fit Measures. Goodness of fit measures, are the measures that enables to make the decision whether the model should be accepted or rejected. As it can be seen on Table 1, there are goodness of fit values and acceptable fit value for each and every goodness of fit measures. There are more than one goodness of fit measures that will be benefitted from in order to evaluate the model tests conducted via YEM. Since the conformity of the model to these measures show different parts, multiple goodness of fits are used instead of only single goodness of fit. The conformity statistics and measures that Kline (1998) advised to be used are presented on Table 1. The measures listed below also attract attention as the most commonly used measures in the literature.

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Table 1. Generally Acceptable Goodness of Fit Measures

Goodness of Fit Measure	Definition	Good Fitness Values	Acceptable Fitness Values
χ^2	It testes whether the original variable matrix is different than the assumed matrix. $X^2 = (N-1) F_{min}$	($P > 0,05$) is the desired figure.	
χ^2 / df	χ^2 statistic is taken as a basis for decreasing the sensibility against the sample size.	$\chi^2 / df \leq 2$	$\chi^2 / df \leq 5$
RMSEA	It is a measure that can be used to prevent the model, which has a big sample body, to be rejected based only on the χ^2 statistic.	$0.00 < RMSEA < 0.05$	$0.05 < RMSEA < 0.10$
GFI	It shows the general covariance amount between the observed variables that are calculated with the assumed model. It can be explained as R2 of the regression analysis.	$0.95 < GFI < 1.00$	$0.90 < GFI < 0.95$
AGFI	It is an index that is used to fulfill the deficiency of the high sample volume of the GFI test.	$0.90 < AGFI < 1.00$	$0.80 < AGFI < 0.90$
CFI	It contrasts the conformity of the present model and correlation between the latent variables and zero hypothesis models that ignore the covariance.	$0.95 < CFI < 1.00$	$0.90 < CFI < 0.95$
NFI and NNFI	This index examines the conformity between the assumed model and the main and zero hypotheses. Moreover, it measures at which ratio this model comply with another model.	$0.95 < NFI < 1.00$	$0.90 \leq NFI < 0.95$
SRMR	It Shows the difference between the observed and expected covariance matrixes.	$0.00 < SRMR < 0.05$	$0.05 < SRMR < 0.10$
RFI	Known also as RHO1.	$0.90 < RFI < 1.00$	$0.85 < RFI < 0.90$

Source: Schermelleh-Engel & Moosbrugger, (2003)

3.4. The Model and the Hypotheses of the Research

We benefit from many scientific resources in literature review while determining the hypotheses of the research and variables within the model. In this process, all the technology adaptation models were examined and contrasted with each other. It is observed that among the models examined, the technology adaptation model produced by Davis et al., (1989) forms a theoretical framework suitable for the purpose of the study. The suitability of the variables' dimensions partaking within the model was evaluated and the model is extended by adding new variables suitable for the purpose of the study.

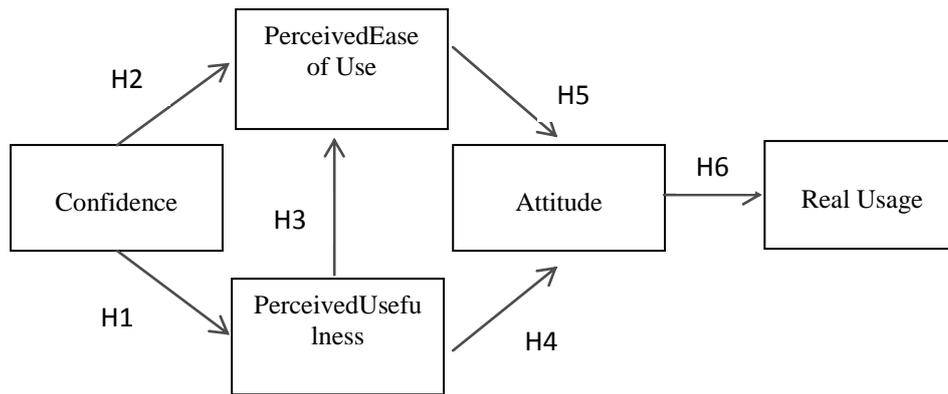


Figure 2. The Theoretical Model of the Research and the Hypotheses

H1: The confidence the patients feel for E-Appointment affects the perceived usefulness by the patients to adopt this technology positively.

H2: The confidence the patients feel for E-Appointment affects the perceived ease of use by the patients to adopt this technology positively.

H3: The perceived usefulness for the patients to adopt E-Appointment system affects the perceived ease of use by the patients to adopt this technology positively.

H4: The perceived usefulness for the patients to adopt E-Appointment system affects their attitude toward using this technology positively.

H5: The perceived ease of use of the patients to adopt E-Appointment system affects their attitude toward using this technology positively.

H6: The attitude of the patients to adopt E-Appointment system affects their real usage behaviors positively.

4. Findings

4.1. Demographic Findings

401 patients in total, who are located in the region of the study's sample, participated in our survey. In our survey, gender, age, state of education, profession, social security and monthly income were measured as demographic variables. 56.8 % of the sample was women and 43.2 % of the sample was men. The ages of the majority of the patients (28.9 %) participated in the survey vary between 31-40. The majority of the participants (59.3 %) are university graduates and 31.2 % of the participants are civil servants. In parallel with this, 50.5 % of the participants are subject to government retirement fund and therefore, 33.2 % of the participants' income vary between 1500-2500 TL. The demographic features are summarized on Table 2.

Table 2. Demographic Characteristics

	Frequency	Percent (%)
Gender		
Female	228	56,8
Male	173	43,2
Age		
0-21	93	22,9
22-30	107	26,6
31-40	115	28,9
41-50	62	15,6
51 -	24	6,0
Education		
Primary school	15	3,8

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High school	72	17,8
University	237	59,3
Graduate	77	19,1
Profession		
Student	63	15,6
Worker	88	22,1
Officer	124	31,2
Teacher	20	5,0
Academician	73	18,1
Retired	33	8,0
Socialsecurity		
General HealthInsurance	46	11,6
PensionFund	202	50,5
Social Security	135	33,7
IndependentWorkersAgency	18	4,3
MonthlyIncome (TL)		
0-700	76	18,8
701-1500	107	26,6
1501-2500	132	33,2
2501-	86	21,4

4.2. Reliability and Validation Findings Results

Cronbach Alpha coefficient, which is the most commonly used method, was used for reliability analysis in order to internal consistency. The Cronbach Alpha value, which takes values between 0 and 1, should be minimum 0.70 or higher (Altunışiket al., 2005).

As it can be seen on Table 3, as a result of the analysis, all the reliability values of the model are above the generally accepted value (0.70). The general alpha value, where all the variables are included is 0.95.

Table 3. Reliability Analysis of Factors

	Cronbachs Alpha
Perceived Ease of Use	0,89
Perceived Usefulness	0,88
Attitude	0,84
Confidence	0,87
Real Usage	0,90
General Alpha Value Of All Factors	0,95

Usually factor analysis is used for the validation of the scale. We utilized exploratory factor analysis to test the validity of the research's scale. The variables partaking in the scale are divided into five factors. The factor loads are presented on Table 4 variables were removed from the scale in order to the appropriate factor structure stated below. We consulted from Bartlett test, which is a sphericity test and shows whether data are in relationship with each other or not, in order to determine the suitability of the factor analysis and we consulted from Kaiser Mayer Olkin (KMO) measures, which tests the suitability of the sample size for the factor analysis. These values are calculated as Bartlett Value: 8106.917; P: 0.000 and KMO: 0.940 and therefore, it is seen that the statistics fulfill the internal structural validity.

As a result of the factor analysis the variables taking part within the scope of technology acceptance, the ones equal to 0.40 and greater ones are taken into consideration and 5 factors were found. These factors explain 68.195 % of the total variance. When the values stated above are taken into consideration, since these values provide the advised ideal fitness measures, as a result of the explanatory factor analysis, it is concluded that most appropriate factor structure is reached for

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perceived usefulness, perceived ease of use, confidence, attitude and real usage concepts.

When mean and standard deviations are examined, it can be seen that the mean of the variable “The usage of E-Appointment is clear and understandable for me”, which takes part in the perceived ease of use, is 4.41. This means that users do not have difficulty while using E-Appointment system and that the system is easy and understandable. The users think with 4.41 mean that they save time by means of using E-Appointment system. Moreover, the users think that using the system is beneficial; by answering I found the system beneficial with 4.35 mean. When the mean of the variables of the confidence factor is examined, a small decrease takes attention comparing to the others. However, since the mean of the answers is close to 4, it represents the ‘I agree’ level. In other words, users experience a little anxiety about confidence. The highest mean of the confidence factor is 3.99 with variable “E-Application websites fulfill their promises and obligations.” The participants stated that they would use E-Application system if they experience any health problems in the future with 4.28 mean. When the answers given by the participants within the scope of variables are taken into consideration generally, the facts that the usage of the system is easy and understandable and that the patients are satisfied attract attention.

Table 4. Mean, Standard Deviation and Factor Loads of the Variables

	M	SD	RU	PU	C	PEU	A
It is easy for me to use E-appointment service.	4,37	,876				,646	
The usage of E-appointment is understandable for me.	4,41	,855				,745	
It is easy for me to become more skillful as I use the E-Appointment.	4,31	,981				,773	
Generally, I find E-Appointment service easy to use.	4,24	,850				,595	
Using E-Appointment service increases patient satisfaction.	4,30	,881				,511	
Using E-Appointment service has an important role for the patients.	4,24	,868		,544			
Using E-Appointment service makes appointment operations easier.	4,34	,741		,713			
Using E-Appointment service enables me to do my appointment operations in a shorter period of time.	4,41	,768		,712			
E-Appointment service is beneficial for my appointment operations.	4,30	,764		,718			
E-Appointment service makes it more practical.	4,32	,748		,752			
Using E-Appointment service enables me to save time.	4,39	,779		,465			
Using E-Appointment service is a good idea.	4,25	,754					,727
I think that E-Appointment service is beneficial (concerning time, decision, etc.) for me.	4,35	,705					,746
I think using E-Appointment service is satisfactory. E-	4,33	,744					,615
It is accepted that E-Appointment service is secure.	4,08	,927			,595		
E-Appointment websites fulfill their promises and obligations.	3,99	,858			,712		
E-Appointment service is a reliable tool for sending personal information.	3,80	,938			,760		
E-Appointment websites execute their operations properly even if they are not supervised.	3,64	1,129			,768		
I trust E-Appointment websites.	3,84	,966			,664		
I usually use E-Appointment service for our health problems.	4,24	,894	,697				
I will advise people around me to use E-Appointment service.	4,12	,876	,619				
I may use E-Appointment service for our health problems.	4,21	,737	,650				
I frequently use E-Appointment service.	3,65	1,171	,714				
I will use E-Appointment service in the future.	4,18	,837	,755				
I tend to make an E-Appointment in the future.	4,02	,957	,687				
I will make an appointment through E-Appointment as soon as I have any health problems.	4,28	,936	,576				

Note: AV: Mean; SD: Standard Deviation; PEU: Perceived Ease of Use; PU: Perceived Usefulness; A: Attitude; C: Confidence; RU: Real Usage

4.3. Structural Equation Analysis Findings

As it can be seen on Table 5, the conformity measures are on the verge of acceptable measures. In accordance with this ratio, which is χ^2 value ($\chi^2= 692,201$

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df: 291 P = 0,00), it is accepted that the model is a good fitness measure with regard to this measure. When fitness measure are examined, χ^2 /df ratio, GFI, NFI, TLI, RFI RMSEA, AGFI and CFI values seem to have acceptable fitness values.

Table 5. Structural Equation Adaptation Values

Adaptation Measurement	Ideally Adaptation Values	Acceptable Adaptation Values	Adaptation Value of Factor
χ^2	(P>0,05)		692,201
χ^2 /df	χ^2 /df \leq 2	χ^2 /df \leq 5	2,379
RMSEA	0.00<RMSEA<0.05	0.05<RMSEA<0.10	0,059
GFI	0.95<GFI<1.00	0.90<GFI<0.95	0,0901
AGFI	0.90<AGFI<1.00	0.80<AGFI<0.90	0,854
CFI	0.95<CFI<1.00	0.90<CFI<0.95	0,944
NFI	0.95<NFI<1.00	0.90 \leq NFI<0.95	0,908
TLI	0.95<NFI<1.00	0.90 \leq NFI<0.95	0,933
RFI	0.90<RFI<1.00	0.85< RFI <0.90	0,889

Structural model is a type of analysis used to measure the relationships between latent variables. The exogenous latent variables taking part in this model is the independent variable. Endogenous latent variables take part in the model as the dependent variable. There are 5 latent variables partaking in the model of the research. These are perceived ease of use, perceived usefulness, attitude, confidence and real usage. Among these variables confidence is exogenous latent variable and perceived usefulness, perceived ease of use, attitude, real usage are endogenous latent variables. The regression loads that show the effect between dependent and independent variables are presented on Table 6.

Table 6. Standard Regression Load of Model

Variables	Regression Load
PerceivedUsefulness<--- PerceivedEase of Use	0,612
Attitude<--- PerceivedUsefulness	0,595
Attitude<--- PerceivedEase of Use	0,241
PerceivedEase of Use<--- Confidence	0,673
PerceivedUsefulness<--- Confidence	0,302
Real Usage<--- Attitude	0,704

The confidence feeling that the participants perceive from the E-Appointment leads them to feel easiness while using the system. In other words, the confidence that the user feels for the system leads the user to benefit easily from the system. In accordance with this H1 hypothesis is accepted with P= 0.05 meaningfulness level. The confidence of the users for the system affects the perceived ease of use in the ratio of 0.673. This means that one unit of increase in the confidence factor affects the perceived ease of use factor positively at the ratio of 0.673 units. The confidence that the participants feel for the system affects their benefit perception positively. In accordance with this, H2 hypothesis was accepted. One unit increase in confidence factor affects the perceived usefulness factor positively at the ratio of 0.302 units. Moreover, since the users think that they use the system easily and benefit from the system, their attitudes are affected positively. As a result of this, patients transform their attitudes to behaviors by executing the system usage. In parallel with this comments H3, H4, H5 and H6 hypotheses are accepted with respectively 0.612, 0.595, 0.241 and 0.704 unit effect values and p= 0.05 meaningfulness level. If it should be stated generally, the system affects the patient satisfaction positively.

Table 7. *Evaluating Hypotheses of Model*

Structural Relations	Standard Loads	Standard Error	Critical Ratio t Values	P Values	Hypothesis Result
H1: Confidence ----- Perceived Ease of Use	0,673	0,050	10,254	0,000	Accept
H2: Confidence ----- Perceived Usefulness	0,302	0,046	5,126	0,000	Accept
H3: Perceived Ease of Use.- Perceived Usefulness	0,612	0,068	9,177	0,000	Accept
H4: Perceived Usefulness--- -- Attitude	0,595	0,095	7,093	0,000	Accept
H5: Perceived Ease of Use.--- Attitude	0,241	0,083	3,339	0,000	Accept
H6: Attitude ---- Real Usage	0,704	0,092	8,823	0,000	Accept

5. Conclusion

The effects of the E-Appointment system, which takes place among the online services of ministry of health and where the patients have the chance to get an appointment from the hospitals online, on the patients, constitute the general framework. In the study the answers to the questions whether the system is only a showpiece and a system where the consequences are not questioned, a perfunctory model or whether the system is a system, which will really benefit the patients and will relieve them during this troublesome process. Within this context, a study is conducted on the patients living in the city of Gümüşhane and the results were evaluated. All of the 420 participants taking part in the sample of the research were chosen among the patients using MHRS in person.

When the results are evaluated, the perceived ease of use, perceived usefulness and the confidence level of the participants were measured. The patients gave answers for all these three factors as 4 or close to 4, which means that they do not have difficulty in using the system and everything about the system can be easily understood and the system provides ease of usage for the users. In addition to this, since the system enables to save time, this affects the perceptions of the users positively about the benefit perceptions during the most problematic process about getting an appointment from a physician and meeting with the physician. In other words, all the participants agree that the system is beneficial. Moreover, the insecurity for the operations done on the Internet and for the information systems do not reflect on the usage of this system. Because the patients stated that the patients trust the system and feel themselves comfortable while entering their information to the system. The data obtained from these three factors were analyzed by getting into interaction with attitude and real usage factors. As a result of the analysis, all of the 6 hypotheses were accepted and the satisfaction of the patients about the system was proved statistically. “H4: The perceived usefulness for the patients to adopt E-Appointment system affects their attitude toward using this technology positively. H5: The perceived ease of use of the patients to adopt E-Appointment system affects their attitude toward using this technology positively. H6: The attitude of the patients to adopt E-Appointment system affects their real usage behaviors positively.” The hypotheses are accepted with respectively 0.595, 0.241 and 0.704 effect levels and P= 0.05 meaningfulness level. This means that the positive benefits that the patients get from the system and that they use the system easily affected their attitudes positively toward using the

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system and carried their attitudes to behavior of using the system. The patients taking part within the sample reveal that they use the system because they utilized the benefits provided by the system and because they are satisfied with the system and will continue to use the system statistically.

In general, MHRS was started to be used within the scope of the transformation in health-care project of the ministry of health, especially with the rapid development of technology and provides the citizens to plan hospital appointments practically. The Central Hospital Appointment System of the Ministry of Health that will be benefitted online is a system that enables patients to get modern, fast and practical health-care services. In accordance with this, reveals the importance and necessity of the information systems in health-care sector as the E-Appointment system is providing adequate, accurate, faultless, proper and fast physician choice. As the use of E-Appointment became widespread within the patients, the satisfaction level of the patients will increase too. Since the E-Appointment provides opportunities such as the confidence, ease of use, accessibility, scarcity of operations, it is a indicator of the quality of the system. In addition to this, lowering the cost of the institutions, increasing the quality of the health-care service offered with increased productivity are other positive factors of the system.

When the outputs of the study's result are evaluated, usage of the information systems in Health-care services increases the patient satisfaction significantly. For this reason, the departments authorized for health-care should carry their informatics investments to a higher level. Moreover, informing the patients who are receiving the services about information systems and usage of information systems will increase the effect of the system. In addition with this, as the ministry of health puts encouraging applications for patients to use the system will enable the system to be used more efficiently.

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