

Evaluating The Features Of Electronic Payment Systems In Iranian Bank Users' View

Fatemeh Hamidinava^{*} and Mehrdad Madhoushi^{**}

The goal of this research is evaluating the specifications of electronic payment systems in the view of Iranian bank users. Reviewing the specifications was done in four substructures such as technical, legal, security and socio-economic. Reviewing this subject for designing and establishing proper electronic payment systems is necessary. This research is measurable. A questionnaire about specifications of used types of electronic payment systems was designed in Likert Spectrum form, and between 300 Users's of electronic payment system in Tehran's Parsian Banks in period of February 2009 to May 2009 distributed. The statistical data analyzed by SPSS soft ware. And used one way ANOVA for preobsorvation test and Kruskal Wallis test for ranking the specifications in each other substructure and each substructure. According to studies on the main factors of evaluating electronic payment services, it considers that in the view of users, is socio economical index.

Field of Research: Features of Electronic Payment Systems, Technical Infrastructures, Legal Infrastructures, Security Infrastructures, Socio- Economic Infrastructures.

1. Introduction

The electronic payments have a noticeable role in Iran Banking nowadays, and at the same time it is the background of bank interchanges. It is important to know the rate of user's satisfying from the payment systems. What are important for bank users that use electronic payments are the specifications of electronic payment systems that electronic payment providers are evaluating these features from the view of users? They want to improve the services of these systems for the customers. What is important for payment users is the features of the electronic payment methods and the providers of the electronic system can evaluate these features from user's point of views to provide better services to clients and develop these services.

Research question is what is the effective feature in using electronic payment system from the view of customers?

[↓] Fatemeh Hamidinava, Department of IT and Computer Engineering, Shiraz University ,Iran, Email : fhamidinava@yahoo.com

^{↓↓} Dr Mehrdad Madhoushi, Associate Professor, Department of Management Faculty of Economics and administrative science, University of Mazandaran's Campus, Iran, Email : madhoshi@umz.ac.ir

This is a survey research. The instrument in this project is a questionnaire in liker scale. The multiple – choice questions are used to evaluate the special features of electronic payment methods, the way of customer's familiarity with these features and bank services, and also to evaluate, know, familiarize the rate of customer's use from the bank. The population is the users that have used the different methods of electronic payment in Persian Bank branches in Tehran since February 2009 to May 2009.

In order to simplify and finalize the questionnaire, the guidance's of tutor, the managers and administrative agents involving in electronic payment system affairs in Persian Bank were used. After providing primary questionnaire, the necessary measures' have been done for validity of it. The reliability of the questionnaire was gained by Cranach's Alpha and composition method. The parametric tests were used in inferential statistics regarding to the normal data.

In order to analyze the data, the unilateral variance analysis was used to survey the prop able difference between main indexes and secondary indexes. Kruskal Wallis test was used to rank the main and secondary indexes and Spearman-Kendall's test was used to survey the relative hypothesis. Spearman- Kendall's test was used to determine the relative meaning fullness between features, too.

2. Literature Review

Payment system means the technology, social-economical, security and legal infrastructure that enable the value transferring between two parties.

This a definition refers to four important subjects, technology infrastructure .security infrastructure, legal infrastructure, security infrastructure, socio-economic infrastructure. Electronic payment system features is been review of this paper in the form of four infrastructures. Electronic payment system infrastructures are classified to four groups:

2.1. Technical Infrastructure Group

Technical infrastructures is a set of software's and hardware that enable the value transferring .This infrastructures are one of important structure in achieving the goal of electronic banking and electronic commerce. Features of this groups include: Scalability, Interoperability, Flexibility , Usability, Convertibility, Standardization, Multi–urrency, Efficiency, Applicability.

2.2. Legal Infrastructure Group

Legal infrastructure is a set of rules, regulations and agreement that support payment system. (Javadi, Beihaghi, 2006)

This infrastructure refers to a set of regulations in inter and interbank interaction that facilitate the activities of financial exchange of electronic commerce. (Trading and electronic commerce, 2008) Features of these groups include: Acceptability, Authorization.

2.3. Security Infrastructure Group

Security is the main and the most essential features of payment system. System security shows the security of technical and organizational infrastructures of information technology during electronic payment process. (Kolyma, 2005) Features of these groups include: Security, Anonymity, Privacy, Confidentiality, Traceability & Link ability, Authentication, Integrity Double Spending, on –Repudiation.

2.4. Socio-Economic Infrastructure Group

Factors of economical development, per capita income level, unemployment rate, multiple rate of the foreign exchange monetary and foreign currencies policies, the cost of telephone lines internet costs are very important in the country's economical-social infrastructures.

The features of this research were discussed in four frames of technical, legal, security, and Socio-Economic infrastructures considering the important role of the payment system infrastructures. As a background for their execution. Features of these groups include: Re ability, Trust, Cost, and Speed, Usefulness. Domestic and foreign researches related to this research are as following:

The evaluation of Iran electronic relating payment system (Fathian.sheikh, 2006)
The evaluation of features of the different electronic payment system from Iranian user's point of views (Madhoushi, Zali, Amani, 2005)

Electronic payment system (PHD thesis-from Edhven University) (Abrazhovich, 2004)

The comparison of current online payment technologies (MA thesis-Linkoping University) (Mandadi, 2006)

Electronic Payment systems: The result of user's satisfaction (Abrazhovich.2001)

3. Methodology and Research Design

Studying the announced data by central bank and the World Bank media and Middle East in 2006, 2009, clears the situation of electronic payment systems of Persian Bank among other banks of Iran. According to the main share of it and being one of the oldest banks in Iran banking, Persian Bank has created new methods in electronic banking and is expanding the electronic payment services to other countries. The study of electronic payment systems features from the view of users is considered in this research. Considering the data represented by central bank in 2008, 2009 in relation to electronic payment of Persian Bank in contrast with 17 other banks in Iran shows that it has gained the first grade in relation to mobile banking services, payment equipments like the number of credit cards and terminal sale and branches among private banks, the second grade in relation to telephone bank among all banks and the first among private banks here, the second grade in relation to internet banking among all banks and it has the most rate of presenting credit cards and present purchase.

According to the statistics of international magazine 'Banker' (Times Financial Publications) Persian Bank has gained the grade 576 among the best 1000 banks in 2007 and the grade 53 according to the index of the best 100 banks in middle east from the view of middle east publications. Now a day, it has accompanied with 207 great banks around the world and this implies that it has a good grade security that is able to accompany with other great banks in the world. Gaining the prestige in international aspect is a valid and reliable for Persian Bank.

Because Parsian bank is the oldest private banking system in Iran and provides modern methods for electronic banking and tries to expand electronic payment services to other countries, So that it tries to study and evaluate the features of electronic payment system from users point of views in this research.

Statistic population consisted of different methods of electronic payment user's in Parsian bank branches in Tehran from February 2009 to May 2009.

The type of this research measurable.

In this research, the population gained according to latest data presented by central bank (Central Bank, 2009) in 2008, 2009 and the sample was selected 300 individuals. The questionnaires were distributed to 20 individuals as a primary test. The results had a 57% standard error. Based on this and $n = z^2 pq / e^2$

The sample gained 290 at first. Noticing that, if the sample ratio to population is

bigger than 5% $\frac{n}{N} \geq 0.05$ then the population will be considered limited. Then measuring the sample will be done by a different formula as in this research.

$$n = \frac{N z^2 p q}{e^2 (N-1) + z^2 p q}$$

Statistical confidence level (Z) in 95% is 1.96. The sampling error is 0/50 and the highest variance rate is considered 25% for p=0/50 and unsuccess ratio q=0/50. The sample volume was 300 persons.

Multi – stages cluster sampling and simple random samplings were used in the research. At first, Tehran was divided to 5 regions (North, south, east, west and central) with regard to geography and economy. The branches of Persian Bank were classified from the 118 ones. Then, two branches in every region are chosen. 30 questionnaires were completed in every branch. So 60 questionnaires were distributed and completed among the users of electronic payment systems in every region in random way.

Research tool was Likert Questionnaire .In planning the questionnaire the questions were surveyed in relation to payment system features to evaluate the users in four categories: sub – structure, design and through balanced credit card.

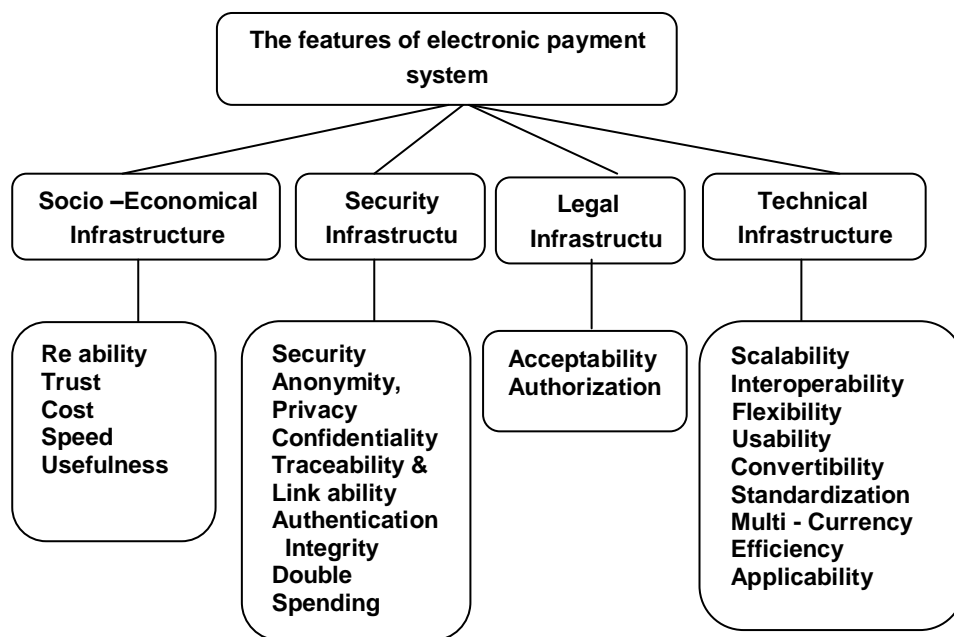
1. Demography questions that include questions as sex, age, education rate, monthly incoming and the region of residence.

2. Main questions, it is a table of questions of questions which differentiate related sub – structures in relation to features and is in liker scale.

Questionnaire stability, chronbach α was 91.2% and the rate of correlation between two parts was 81.6% that shows the high independence of questions. Unilateral variance analysis was used for features rating in abovementioned dimention and each dimention.

Considering abovementioned subjects in these research four classifications were used for the features of system features that are shown in following figure.

Figure 1: Electronic payment system Features classification based on its infrastructure



4. Discussion of Findings

Based on descriptive statistics of the main indices of questionnaire, some statistical parameters of users are as following:

Sex: 77.6%Male, 22.4%Female.

Degree: Under Diploma 2.0%, Diploma 24.1%, Associate of art 16.7%, Bachelor 44.6%, Master 9.5%, PHD 3.1%.

Age: 21-30; 0.3%, 31-40; 50.7%, 41-50; 17.0%, Upper than 50; 32.0%.

Statistical parameters were studied from Parsian bank users point of views as following, the year of familiarity with electronic services was recorded from 2001 to 2009 in questionnaires that the highest rate belonged to the years between 2003 to 2006. the way of familiarity with electronic payment services for this five multiple choice question includes friends , relatives , bank propagandas , bank

clerk myself and others that the highest rate belonged to friends and relatives and then myself. The rate of familiarity with electronic payment services was questioned based on different kinds of services that based on results, 15% of respondents measured their familiarity high and 14% rated average. 32% rated their familiarity very high.

The rate of using electronic payment services was declared 17%. Average use, 13% was high rate and 18% was the highest rate.

4.1. Inferential Statistics of Sub Indices

Unilateral variance analysis was used for the study of the probable differences between the main indices of the research and between the sub indices considering, data normality in inferential statistics section. Kruskal Wallis test was used on recognized priorities of questionnaire respondents.

The rate of satisfaction with electronic payment services was 18% for average 21% for high and 19% for very high.

$$\left\{ \begin{array}{l} H_0: \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5 = \mu_6 \\ H_1: \mu_1 \neq \mu_2 \neq \mu_3 \neq \mu_4 \neq \mu_5 \neq \mu_6 \end{array} \right.$$

The result of variance analysis for the study of meaningful differences, the average rate of calculation amount for satisfaction for any electronic payment services was between 96.0 to 3.45 it means the lowest rate of satisfaction to high. Fisher statistic rate was 2.66 e – 23 that was near to zero. the rate of f statistics was 88.71 from f equal to 2.22, therefore supposition rate of all kinds of electronic payment method was rejected and it was accepted, based on these results, the measurement for classification and rating all kinds of electronic payment were done based on Kruskal wallis test based on these results, the rate of satisfaction priorities was respectively ATM, POS, payment cards, internet bank, parsian telephone and bank mobile services.

In the comparison of the method of electronic payment of Parsian bank with other banks 40% selected

Better services, 33% equal rate and 24% selected (I don't know) item.

Also 1.2% declared that the services of electronic payment of the Parsian bank became worser than other banks...

Zero to three coefficients was related to the answers of the question for conducting test.

Student T test was used for the comparison on Parsian bank with other bank. That it's average equals to 2.12 near to the answer better.

Fisher statistics of this amount is zero that states test acceptability.

Consequently, the methods of electronic payment in Parsian bank are better than other bank from user's point of views.

4.2. The Inferential Statistics of the Main Indices

Considering the population sample distribution normality, because of high amount of sample, parametric test was used.

In analysis tests, unilateral tests are used for the study of the average difference between the main indices .So that zero hypothesis and front hypothesis are provided as following.

$$\begin{cases} H0: \mu1 = \mu2 = \mu3 = \mu4 \\ H1: \mu1 \neq \mu2 \neq \mu3 \neq \mu4 \end{cases}$$

Considering table 4 it should be considered that the average rate of answer is between 3.4 to 3.82.

This shows the high importance of the classified features from respondent point of views.

Table 1: table of statistic features of studied main indices

Group Number	Sample Number	Total	Average	Standard Deviation
Security	282	1003.200	3.716	0.462
Technical	280	920.356	3.409	0.298
Soci-Ecomic	282	1026.067	3.800	0.437
Legal	278	969.000	3.589	0.778

As mentioned in table 5, the meaningful level amount of Fisher statistics is less than 0.05 (equals to 3.99451E-13)

And because f statistic is larger than f with the amount of 2.61 shows that it is in the limit of crisis. So in the meaningful level of 95% we can reject this null hypothesis, these groups can be prioritized and have different amounts based on priority degree.

Table 2: The results of unilateral analysis of the main indices

ANOVA	Total Root	Freedom Rate	F Statistic	Average Root	Meaningful Level	F limitation
Between Group	26.80	3.00	20.81	8.93	3.99451E-13	2.61
Inter Group	478.97	1116.00		0.43		
Total	505.77	1119.00				

Based on studies on the main indices there are meaningful differences between these factors, from Parsian bank customers, point of views.

In Kruskal Wallis test, based on table six it was considered that the χ^2 statistic amount are 83 and 108 that are larger than the amount of χ^2 distribution with 3 freedom rate and α equal 0.05 that is equal to 7.81473 and Fisher statistics is

zero that is smaller than 0.05 so that we can easy certainly that there is meaningful difference in the features of electronic bank services. That it's rating as following.

Table 3: Kreskas Wallis rate test for the main indices

Indices		Security	Technic al	Soci-Economic	Legal
The Number of Samples based on infrastructures decisions		282	280	282	278
The average rate of Kruskal Waills		578.6	418.26	658.14	590.4
Freedom Rate	3	χ^2 Statistics	83.108	Bilateral meaningful level	
					0.00

Based on information in table3 the main socio-economic index is obtained by the amount of 658.14 in the first rate.

In the second place there are legal features and security features are in the third position and fourth position is placed with a meaningful interval with other features of the main feature of technical features.

4.2.1. Rating Technical Group Features

The study of following sub indices the subsets of the main group of technical features has nine statements, so the subjects of the hypothesis test are as following.

$$\begin{cases} H0 : \mu1 = \mu2 = \mu3 = \mu4 = \mu5 = \dots\dots\dots = \mu9 \\ H1 : \mu1 \neq \mu2 \neq \mu3 \neq \mu4 \neq \mu5 = \dots\dots\dots \neq \mu9 \end{cases}$$

The average answers of these items based on the table4, are between 3.19 to 3.66 that of all factors in the evaluation of the features of Parsian bank electronic payment services.

Table4: The features of sub indices of technical group

Group Number	Sample Number	Total	Average	Standard Deviation
Scalability	261	798.00	0.83	3.48
Interoperability	270	738.00	1.02	3.22
Flexibility	271	822.00	0.87	3.59
Efficiency	268	753.00	0.78	3.29
Applicability	263	734.00	0.99	3.21
Usability	264	825.00	0.71	3.60
Standardization	264	804.00	0.75	3.51
Multi-Currency	244	731.00	0.87	3.19
Convertibility	251	746.00	0.89	3.26

Based on table 5, F statistics equal to 7.86 is larger than 1.94 and located in critical position Fisher statistic is near to zero and is less than 0.05.

So that considering the result, supposing zero based on similarities between the averages of sub factors is not corrected and H1 is accepted.

Based on obtained results, some measurement are done for classification and prioritizing above mentioned indices.

Table 5: The result of analyzing unilateral variance of technical group indices.

ANOVA	Total Root	Freedom Rate	F Statistic	Average Root	meaningful level	F limitation
Between Group	53.83	8.00	6.73	7.86	1.85E-10	1.94
Inter Group	1755.99	2052.00	0.86			
Total	1809.82	2060.00				

Based on result of the tests in table 6, We can see that χ^2 statistic is 51.456 that is larger than the χ^2 statistic amount with 8 degree freedom and α equal 0.05 that is equal to 15.5073 and the amount of bilateral Fisher statistic is zero that is smaller than 0.05 so that we can easily that there is meaningful difference between sub indices of technical group from Parsian bank customers' point of view and we can rate the Features of technical group.

The priorities of these features are in the users' point of views.

Table 6: The features of the Kruskal Wallis rating test of technical group

Indices Development ability	Kruskal Wallis Rate	The Number of Sample	The rate of Sub parametric		
Scalability	1251.29	261	3		
Interoperability	1097.82	270	7		
Flexibility	1294.70	271	2		
Efficiency	1136.49	268	5		
Applicability	1096.20	263	8		
Usability	1326.96	264	1		
Standardization	1229.21	264	4		
Multi-Currency	1033.79	244	9		
Convertibility	1126.41	251	6		
Freedom Rate	8	χ^2 Statistics	51.456	Bilateral Meaningful Level	0.000

4.2.2. Rating Legal Features

Based on result the average rates of the amount of two studied parameters based on table 7 are between 3.51 to 3.62 that show the effect of parameters in satisfaction with the methods of Parsian bank electronic payment.

$$\begin{cases} H_0: \mu_1 = \mu_2 \\ H_1: \mu_1 \neq \mu_2 \end{cases}$$

In unilateral variance analysis, null hypothesis is that the two sub parametric Legal infrastructure has not meaningful difference with each other and hypothesis one is against null hypothesis.

Table7: Statistical features of sub indices of legal group

Group Number	Sample Number	Total	Average	Standard Deviation
Acceptability	267	804.00	3.51	1.01
Authorization	270	832.00	3.63	1.02

Based on table 8, Fisher statistic amount is equal to 0.19 that is larger than 0.05 and f statistics that is equal to 1.69 less than f limit equal to 3.86 so there are enough reasons for rejecting the null hypothesis of the existence of meaningful difference between two parameters of subset of legal infrastructure so that there is no need to rating legal group features. And both features are there in a same rate.

Table 8: The results of unilateral variance analysis of the legal group indices

ANOVA	Total Root	Freedom Rate	F Statistic	Average Root	meaningful level	F limitation
Between Group	1.71	1.00	1.71	1.69	0.19	3.86
Inter Group	462.41	456.00	1.01			
Total	464.12	457.00				

Based on test results, it can be seen in table 9 that the amount of χ^2 statistics is 6.124 that is larger than χ^2 distribution statistics and α equal 0.05 that is equal to 3.84146, and the amount of fisher bilateral statistics is 0.013 that is less than 0.05 so that we can say that there is meaningful difference between sub indices of legal groups from bank costumers point of views and it help rating legal group features.

Table 9: The table of Kruskal Wallis rating test features of legal group

Indices Development ability	Kruskal Wallis Rate	The Number of Sample	The rate of Sub parametric
Acceptability	284.85	267	1
Authorization	253.32	270	2

4.2.3. Rating the Features of Security Group

The study and the determination of electronic payment system in the frame of the main security group that are the main 7 questions of the questionnaire, null hypothesis is as following:

$$\left\{ \begin{array}{l} H0: \mu1 = \mu2 = \mu3 = \mu4 = \mu5 = \mu6 = \mu7 \\ H1: \mu1 \neq \mu2 \neq \mu3 \neq \mu4 \neq \mu5 \neq \mu6 \neq \mu7 \end{array} \right.$$

Based on table 10 , the average attitudes of bank customers for the rate of the importance of security sub indices is between 3.57 and 3.9 that is high .

The average rates of answers are near each other and are in the region of 3.55 to 3.91.

Table 10: Statistical features of sub indices of security group

Group Number	Sample Number	Total	Average	Standard Deviation
Security	276	857.00	3.74	0.76
Confidentiality	272	883.00	3.86	0.69
Anonymity, Privacy	264	819.00	3.58	0.89
Non Repudiation	259	806.00	3.52	0.86
Traceability& Link ability	273	840.00	3.67	0.88
Authentication	254	725.00	3.17	0.74
Integrity	268	843.00	3.68	0.88

Based on table 11, fisher statistic meaningful level is less than 0.05 and the obtained f amount F amount is 13.73 that is larger than F amount of critical region equal to 2.1 so that there is no possibility to reject null hypothesis and it can be observed that form respondents point of views, the priority group is not identical it.

Means that these factors didn't have identical importance from costumer point of views, so that they can be prioritized.

Table 11: The result of unilateral variance analysis of sub indices of security group.

ANOVA	Total Root	Freedom Rate	F Statistic	Average Root	Meaningful Level	F limitation
Between Group	66.96	6.00	11.16	13.73	2.93E-15	2.10
Inter Group	1297.32	1596.00	0.81			
Total	1364.28	1602.00				

Based the result of the tests, in table 12, it can be observed that the amount of χ^2 statistic is 105.35

That is larger χ^2 distribution statistics with 6 degrees of freedom, although fisher bilateral statistics is less than 0.05, so that it can state that there is meaningful difference between subs indices of security group from Parsian bank point of views and we can rate security group features.

Table 12: The features of Kruskal Wallis test of security group features

Indices Development ability	Kruskal Wallis Rate	The Number of Sample	The rate of Sub parametric		
Security	1019.88	276	2		
Confidentiality	1083.78	272	1		
Anonymity, Privacy	932.69	264	5		
Non Repudiation	888.11	259	6		
Traceability & Link ability	961.31	273	4		
Authentication	665.88	254	7		
Integrity	961.98	268	3		
Freedom Rate	6	χ^2 Statistics	105.935	Bilateral Meaningful Level	0.0000

The obtained results of the rating security group features are shown in above table.

4.2.4. Rating Socio Economical Features

Sub indices of the main group of socio economical features of the electronic payment system that have five sections. The average result s is between 3.64 and 4.13 that show their importance from bank customers' point of views, so that null hypothesis is shown as following.

$$\begin{cases} H0: \mu1 = \mu2 = \mu3 = \mu4 = \mu5 \\ H1: \mu1 \neq \mu2 \neq \mu3 \neq \mu4 \neq \mu5 \end{cases}$$

The results of the studies are shown in table 13 that state abovementioned factors have important priority from respondents' point of views and are more than 3.5 based on obtained data.

Table 13: statistical features of sub indices of socio-economic features

Group Number	Sample Number	Total	Average	Standard Deviation
Trust	275	857.00	3.74	0.88
Reability	265	834.00	3.64	0.78
Usefulness	279	850.00	3.71	1.15
Cost	270	946.00	4.13	0.85
Speed	277	877.00	3.83	1.04

Based on data in table 17, the meaningful level of Fisher statistic is less than 0.05 (equal to 0.000) and obtained amount of F is equal to 8.88 that is larger than the amount of F related to critical region is 2.33, so that it is less than 0.05, so we can reject null hypothesis, so that we know from respondents point of views, sub factors have not identical importance and prioritization is possible between these factors.

Table 14: Analysis result of unilateral variance of sub indices of socio-economic features of electronic payment systems

ANOVA	Total Root	Freedom Rate	F Statistic	Average Root	Meaningful Level	F limitation
Between Group	33.41	4.00	8.35	8.88	4.6E-07	2.38
Inter Group	1071.84	1140.00	0.94			
Total	1105.25	1144.00				

Based on the results of the test , in table 15 we can observe that the amount of χ^2 statistics is 80.071 that is larger than the amount of χ^2 statistic distribution with the freedom degrees of 4 and α equal 0.05 this is equal to 9.48773 and the amount of fisher bilateral statistics is zero that is less than 0.05 so we can say currently that there is meaningful difference between sub indices of socio economical group from P2arsian bank customers point of views , and we can rate the features of socio economical group .

Table 15: Rating socio economical features

Indices	Kruskal Wallis Rate		Sample Number	Sub Parametric Rating	
Trust	622.59		275	4	
Reability	629.33		265	3	
Usefulness	844.69		279	1	
Cost	718.14		270	2	
Speed	599.69		277	5	
Degree of Freedom	4	χ^2 Statistics	80.71	Bilateral Meaningful Level	0.000

The obtained results of the rating socio economical featured are shown in table 15, in each factors, considered measures were conducted for determining effective features in using Parsian bank electronic payment system that are shown in table 16 .

Table 16: The features of the most effective features in using electronic payment system

Main Index	Sub Index	Kruskal Wallis Rate	Sample Number	Service Number
Technical	Usability	1602.65	264	9
	Interoperability	1576.02	271	11
	Scalability	1504.59	261	12
	Standardization	1462.91	264	13
Security	Confidentiality	1945.38	272	2
	Security	1826.63	276	4
	Integrity	1724.03	268	6
	Traceability & Link ability	1722.66	273	7
Socio-Economic	Usefulness	2281.16	279	1
	Cost	1944.16	270	3
	Reability	1721.22	265	8
Legal	Acceptability	1811.28	267	5
	Authorization	1596.01	270	5
Freedom Rate	12	χ^2 Statistics		.000

5. Conclusion

Because in each one of these factors, necessary measures were taken for determining effective features.

The rate of importance of these classifications from users' point of use socio-economic of using Parsian bank electronic payment system, all groups is explained as following:

Based on information in table, rating of group of features

1-Features of Soci-Economical Group

2-Features of Security Group

3-Features of Legal Group

4-Features of Technical Group

Rating the features of Socio-Economic Group,

Speed, Cost, Trust, Re ability, Usefulness

Rating the features of Security Group,

Confidentiality, Security ,Non repudiation ,Traceability & Link ability, Anonymity, Privacy

Rating the features of Legal Group,

The evaluation of features based on legal infrastructures these features are in a similar rate.

Rating the features of Technical Group,

Usability, Flexibility, Standardization, Scalability, Efficiency, Convertibility, Applicability, Interoperability, Multi- currencies.

The effective features from Persian bank users, point of views based on priorities are as following:

Usefulness , confidentiality , cost , security , accept ability, traceability , trust , usability , confirmation , flexibility , scalability , standardization .

Based on results obtained from this research following suggestions are recommended for developing, and designing the methods of electronic payment system in Parsian bank.

Suggestion after studding the result of the features of the electronic payment systems from technical, legal, security, socio-economic infrastructure point of views are following:

The features of Scalability, providing suitable table communication background for mobile communications.

The feature of Standardization, observing global standard for developing electronic payment to large countries.

Adapting considered technologies in technical infrastructure background with standards, monetary and banking regulations.

Suitable distribution (geographical) of ATMs and POS in different position in the city.

The feature of Convertibility, and receiving monetary units other countries' currencies.

The features of Authorization, regulation and approving the legal regulations of crimes and frauds of electronic payments for developing security of these payments.

The collection of clear executive in striations and regulations.

The feature of Acceptability, providing suitable law backgrounds and standard procedures of developing mobile banking and tele communication networks for determining and preserving private domain and supporting people's personal data and preventing, probable misusing.

Security feature, enough and quick attention to security structures in the country internet networks, their developments and promoting the security level of networks.

The features of Authentication, institutionalising digital signs.

The feature of Confidentiality and Anonymity, Privacy, standard procedures for developing, tele communication and mobile banking, networks for determining and preserving private domain and supporting personal data and preventing probable misusing (adaptation of these technological with standards and monetary and banking regulations) .

The features of Non Repudiation and Traceability & Link ability, clearing the method of interaction between banks and operators in executive and security domains.

Trust feature, insurance coverage for electronic exchanges.

Cost feature, attempts to reducing the cost of connecting to internet and mobile phone.

The feature of Usefulness training expert forces in banks for removing problems. The main limitations were inadequate information of users that used payment systems of Persian Bank as well as inaccessibility of enough internal and external resources in the field of evaluating the features of electronic payment systems in Iran and other known banks in the world.

References

- Central Bank. 2009. *Statistics, Central Bank of the Islamic Republic of Iran*. Retrieved 2009, from <http://www.cbi.ir>: <http://www.cbi.ir/section/1372.aspx> (2008). Retrieved 3 20, 2009, from Banking: <http://www.banking.com>
- Abrazhevich, D. 2001. User Acceptance Electronic Payment Systems. *SamenwerkingsOrgaan Brabantse Universiteiten (SOBU)* .
- Abrazhevich, D. April 2004. User Acceptance Electronic Payment System:a User Centered Prespective and Interaction Design,PHD Thesis. *University Eindhoven* .
- Dejhpasand. 2004, Feb. Money Electronic Transferring in Iran Electronic Banking, Trade ministry studies and research institute. Tehran, Tehran, Iran.
- Doroodchi,M,Nikmehr,N,Iranmehr,A. 2007. The Evaluation of Payment Systems in e-commerce,. *First global electronic banking conference* (p. 45). Tehran,Iran: Banking.
- Electronic Bill Presentment and Payment: An Efficient Opportunity for Utiliti Paul A Murphy,American Water Works Association*. 2003, Aug. Retrieved 2008, from Journal ABI/INFORM Trade & Industry: <http://proquest.umi.com/pqdweb?index=98&did=412288131&SrchMode=1&sid=2&Fmt=6&VInst=PROD&VType=PQD&RQT=309&VName=PQD&TS=1199091695&clientId=24342>
- Javadi,Beyhaghi. 2004, 3. Electronic banking. Tehran, Tehran, Iran.
- Kumar Mandaddi, R., & Linkoping. 11 th september 2006. Comparison of Current On-line Payment Technologies, Master thesis performed in division of Information Theory. *Linkoping Institue of TECHNOLOGY* .

Hamidinava & Madhoshi

- Madhoushi, M., & Mohebi Mazandaran, E. .. (n.d.). Multi-analyses electronic payment system. (*University of Science and Technology, Iran* .
- Madhoushi, M., & Mohebi, E. 2004. Multi-analyses electronic payment system ,. *Parsian Bank*. 2009. Retrieved 1 16, 2009, from :Parsian Bank Web Site, <http://www.parsian-bank.com>
- PAYMENT SYSTEMS WORLDWIDE A SNAPSHOT-Payment Systems Policy and Research Series Financial and Private Sector Development Vice Presidency The World Bank Group*. 2008. Retrieved from (Outcomes of the Global Payment Systems Survey .
- Sheikh,A.Fathian,D. spring, 2006-No.4. The Evaluation of Payment System of Iran Electronic Rating,. *ModernTrade and Economy* , Pages 1-15.
- The Reprot of The Consumer Electronic Payment Task Force*. 1998, April. Retrieved 10 3, 2008, from OCC: <http://www.occ.treas.gov/netbank/ceptrpt.pdf>