Quality of electronic services and its role in customers’ satisfaction

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Abstract. This research studies the quality of electronic services and its role in customers’ satisfaction. This is an applied research and according to the method of gathering its data, it is a descriptive-survey research. In this research the data related to customers’ willing in Aseman airline company has been gathered by using quality function development (QFD) and demands related to the customers’ willing have been recognized and effective factors in quality have been determined by using experts and professional one’s ideas and mentioned factors by the researchers in other service areas. After recognition of the factors by using TOPSIS factor, ranking of the factors was determined. And also for correctness of the given ranking it has been done by AHP technique and results had been compared with TOPSIS fuzzy method. Finally, factors like security, infrastructure, access and … were determined according to the customers’ willing. Results of the research showed that the factors of infrastructure, trust, accountability, easy application, security, access and time are effective in electronic service. Totally, these factors are demonstrative of a model for evaluation of the quality of electronic services in Aseman Airline Company.

Keywords: Quality of services, customers’ satisfaction, Aseman airline

1. INTRODUCTION

Products of an organization or actually productions of a working system in any company can be divided into three groups of information products, physical productions and service productions. Pure service product is only series of valued activities for the customer. But, it cannot include information and physical objects and when the term of service is used, it means the service that its value results in enforcement of service activities. Among modern approaches of development, the change in model of giving the services from traditional to electronic and using information technology is in this field that it is expected that it could be able to make a considerable role in improvement of providing the services. Since, the most important and potential electronic service is in improvement of service level to the customers, so, the system of customers’ service should be able to be respondent for customers’ demands, questions and complaints in the shortest time and with the highest efficiency (Kimasi, 1383).

Quality is not only related to the productive companies, but, it is related to the service companies, too. Only a few companies have acted for recognition of qualitative factors in relation to the services and this case has created competitive advantage. Studies on quality of electronic services show that dimensions of quality in electronic services is dependent to the way of giving those services regardless the kinds of services in internet, (ability for accountability, designing the web, easy usage, quality of information) other dimensions can be recognized in electronic services. With increase in the role of information technology in the world and increasing tendency of the service towards being electronic, increase in customers’ satisfaction is of the most important tranquil of the managers of these services. Among these, necessity of the focus on providing general public services is indispensible as an important tool for customers’ satisfaction (Soltani Delgosha, 1388). Nowadays, organizations consider amount of customers’ satisfaction as an important criterion for assessing their job quality and this process. Customers’ importance and satisfaction is something that is related to the competition in global level. So, we can play an important role in success of organization by determining effective factors in quality of the
Most of the theorists and the researchers agree on two concepts of customers’ satisfaction and service quality and consider them as basic concepts in service management. Conducted researches show that customers’ satisfaction is effective in keeping customers and hence in earning and making profit and success of the company in competition arena. The customers’ satisfaction is a key for maintaining customers’ faith and better financial performance of the company. On the other hand, in current competitive world, quality of the service is one of the fields that organizations can be able to gain competitive advantages. Quality of the service has been defined as a perspective towards advantage and dominance of a service that is derived from comparison among customers’ expectation and their real perception about the service. Most of the researchers consider satisfaction and quality as two different and separate concepts. They have argued that at the time that service quality is a general quality towards an organization, the customers’ satisfaction is related to a special interchange of the customer with organization, that is a short-term criterion and focuses on personal and affective reaction to the services (Zahedi and Biniaz, 1387).

So, there is doubt that the managers should focus on improvement of service quality and its different elements as a tool for creating suitable behavioral intentions in customers or it is better to focus on importance of customers’ satisfaction. It seems that the main reason of this doubt and disagreement in different studies is this point that most of researches have studied only effect of one of these concepts on buying intention. This condition has created ambiguity in priority of each of these concepts upon the other and has caused that importance of each of these concepts on effectiveness of buying intention be estimated much or less than reality (Soltani Delgosha, 1388).

A service is a tool for delivering the value to the customer that is accomplished by facilitating the customers’ willing for gaining without accepting the risks and especial expenses. Results of development of information technology in public and non-public organizations and institutions is in extensive spectrum of employing backup systems like financial systems to mechanizing axial processes and providing electronic services. But, in most of institutions quality and quantity of providing electronic services isn’t in suitable condition, so, giving services has especial importance. Since, information development and technology have been speeded more in different arena of the system in recent years and because of above mentioned points, nowadays, the organizations try to change the way of giving the services in such a way that respond people in the best way and in the shortest time and it specifies necessity of conducting this research. The customers’ satisfaction is of internal actions of the organizations that its direction is towards meeting the customers’ needs and shows direction of improvement of quality in services and productions. Customer’s satisfaction doesn’t depend on the kind of commercial activity of an organization or situation of the organization in the market, but, it depends on ability and capability of the organization in providing customer’s expected quality. Parameters that are related to the customers’ satisfaction are (Fecikova, 2004):

- Easy usage (speed of responding, backup guidance, using new technology)
- Information text (quality, quantity, correctness of desired information)
- Attractiveness
- Interoperability

Understanding this point that what is customers’ exact expectation in definition and providing the high quality of the service is a determining step. According to Parasuraman’s theory, the customer expects these points at the first step at the time of entering to an organization:

- staffs’ correct understanding about customers’ expectations
- The customers’ previous experiences of organization services
- The way of organization relationship to the customer
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Exact understanding of the organization from customers’ expectation has caused in establishment of desired relationship of the organization to the customers. In most cases, the models and theories of measuring service quality in public sector face serious problems because of lack of observing scientific procedures in gathering the data and information and incorrect definition of the indexes and criterions and finally, lack of desired definition of a suitable tool for measuring quality in this sector.

One of developed models in quantitative measuring of the service quality in public sector belongs to Parasuraman. Servqual’s model is one of the best models and tools for good validity and reliability for evaluating the customer’s expectation. This model tries to measure service quality, while service quality is used for understanding the customer, his/her expectation and desired service quality (Ladhari, 2010).

Since, service quality has an important role in evaluating service performance, specifying the problems, management of giving services and especially, the customers’ satisfaction, we can understand importance of the factors that determine quality of the electronic services.

The first electronic businesses have been in 1998 and among some valid businesses in America and Western Europe. Businesses that have been done by setting up primitive websites and then have been developed (Ladhari, 2010).

In 2005, electronic business was developed and spread in most cities in America, Europe and eastern Asia with high speed. Some believe that history of e-commerce dates back to the time before existence of current Internet. But, because of its heavy expenses of this style of commerce, possibility of using it was only for commercial and economical companies and agencies. But, since Internet has been widespread and there is possibility for everyone to use it, this opportunity was created that the structure of e-commerce has been changed and has exited from belonging to a special class of people and has changed into an industry (Ladhari, 2010).

Some models have been recognized for evaluating the quality of electronic services in the field literature:

- E-servqual
- Davidson and Cooper model
- Webqual
- Qual site
- E-qual

Conducted researches about the customer’s satisfaction have been developed based on two different assessments (Fecikova, 2004). The primitive approach about the customer’s satisfaction is a satisfaction based on a special exchange with the customer’s experience about a specific product or provider of the services. This traditional approach usually considers satisfaction as an evaluative judgment after shopping. Most of the researchers based on a special exchange, focus on the relationship among customer satisfaction and service quality and the role of affection in assessment.

But, the second approach towards customer satisfaction is an approach based on psychology that is called cumulative satisfaction. This approach defines satisfaction as the result of learning process that the customer gains his/her satisfaction in all his/her exchanges with organization. Advantage of cumulative approach compared to the approach based on a special exchange is that this approach has ability for anticipating behavioral outcomes like re-shopping. Totally it can be said that the customer satisfaction is resulted from cognitive and affective assessment of a person, in such a way that the person compares his/her expectation with perceived performance of the service or production. If perceived performance be less than expectation, the customer will be dissatisfied and if perceived performance is more than customer’s expectation, the customer will
be satisfied. If perceived performance is equal to the customer’s expectation, the customer will be in an indifferent and neutral condition.

2. QUALITY OF SERVICE AND CUSTOMER SATISFACTION

Most researchers have tried to explain and create a model for the relationship between customer satisfaction and service quality. Issues that have been studied are: are these two concepts different and separated or which one has priority on the other and actually, is the customer satisfaction that results in service quality or is it the service quality that results in customer satisfaction? Most conducted researches have shown that these two concepts are separate and different concepts (Lasser, 2000).

Usual explanation for difference between customer satisfaction and service quality is provided in this form that quality of the service is a kind of general and long-term perspective, but, satisfaction is related to a specific exchange (Bitner, 1990).

In measuring service quality, what is considered is the customer expects, but, in measuring satisfaction what the consumer expects is considered. Oliver has explained the difference between service quality and satisfaction in this way: (Bitner, 1990).

- Dimensions that compose quality judgment are limited to provide the service, but, about satisfaction, the customer’s judgment may be created from extended set of factors that are not merely limited to providing the service.
- Judgment of service quality is created based on ideals and preferences related to giving services, but, judgments of satisfaction are created based on anticipations/norms.
- Perception of service quality is not dependent to experiencing the environment that gives service, but, perception of satisfaction depends on previous experiences.
- It is believed that service quality is determined more with external implications, but, satisfaction is created by conceptual implications.

But, about this point that satisfaction is prior to the service quality or service quality results in satisfaction, researches have gained contrast. Parasuraman et.al have argued that higher levels of perceived service quality results in increase in customer satisfaction. In their opinion, if customer expectation be higher than his/her perception of given services, it will lead in to his/her dissatisfaction, but, if the customer’s perception is higher than his/her service performance, it will lead in customer satisfaction. So, in their opinion, this is service quality that leads into customer satisfaction.

But, there is another perspective in this relationship that shows that the customer satisfaction leads into service quality. Base of this theory is definition of service quality as “general dominance or advantage of an entity”. Definition of service quality with cumulative terms mentions a comprehensive concept that based on its more general opinion should be related to the behavioral intentions.

Bitner conducted a research on 541 tourists in an international airport and empirically showed that customer satisfaction leads into the service quality. Bolton & Drew considered this assumption that service quality equals to a perspective as a basis for priority of the customer satisfaction on used service quality.

Bolton & Drew believed that perceived service quality is a function of the customer’s residual perception of provided service quality in previous time or his/her dissatisfaction of service performance. This point shows that satisfaction is a different concept that is the medium of perception in service quality in previous time and current perception of service quality. Bolton & Drew showed that process of lack of prove, expectations and performance has considerable effect.
in consumer’s current perception about service quality. They stated that service quality is a function of satisfaction or dissatisfaction and lack of coordination between service and customers’ expectation (Bolton & Drew, 1991).

Cronin and Taylor studied different theories about the relationship between service quality and customer satisfaction and conducted an empirical research for studying this relationship and explaining service quality. Their research showed that service quality has considerable effect on customer’s satisfaction and the customer’s satisfaction has considerable effect on shopping intentions. But, service quality has little effect on shopping intentions. They believed that programs for the customer satisfaction in organization should only focus on service quality.

The first condition

![Diagram of the first condition](image1)

Second condition

![Diagram of the second condition](image2)

**Figure 1.** Research models about causal order of service quality and customer satisfaction (Drew & Bolton, 1991).

Spreng & Mackoy also showed that this is service quality that leads into customer satisfaction. They studied the relationship between perceived service quality and satisfaction and provided a model with the title of perceived service quality and satisfaction. This model shows effect of expectation, perceived functional willing, coordination of willing and lack of coordination in expectations on general service quality and customer satisfaction.

![Diagram of the Spreng & Mackoy model](image3)

**Figure 2.** Model of service quality and satisfaction (Spreng, 1996 & Mackoy).

Oh also showed that service quality leads into the customer satisfaction. He showed that customer value has an important role in the process of decision making after the customer’s shopping. The customer value is a prior factor on customer satisfaction and intention for shopping again.
Caruana et.al conducted an empirical research about auditorship services and the relationship among customer satisfaction, service quality and value to create a model for a relationship among these concepts. Results of their research showed that although most researches have neglected the role of value in the relationship between these two, the value has a considerable role in the relationship between these two concepts. They showed that effect of service quality on satisfaction not only is not straight but, value has a mediator role in the relationship between these concepts. They believed that the researchers should pay attention into the value as a key element in this field (Oh, 1999).

Dabholker et.al studied the relationship between two concepts of customer satisfaction and service quality. They showed that service quality is prior to the customer satisfaction. They studied prior factors, results and mediator role for providing a better perception of service quality and its relationship to the customer satisfaction. They developed a model that based on it, service quality includes four characteristics. (reliability, personal attention, comfort and characteristics). Based on this model, service quality leads into customer satisfaction and then customer satisfaction leads into behavioral intentions (Ladhari, 2010).

Lasser studied the relationship between service quality and customer satisfaction by using two models of Servqual and technical-functional quality. Actually, they tried to study effect of different dimensions of these two approaches on customer satisfaction. Their findings showed that service quality has a direct influence on customer satisfaction and also they argued that customer satisfaction should be considered as a multidimensional concept. Also, this research showed that the only empathy dimension in Servqual model acts on effectiveness of customer satisfaction like in technical-functional quality. Actually, the model of technical-functional quality is able to anticipate customer satisfaction, but, most dimensions of Servqual model are not able to anticipate customer satisfaction (Lasser, 2000).

In this research, it has been tried to study basic concepts of electronic services. So there are two main questions:

1. In what extent each one of effective factors in quality of electronic services are important?
2. What is influence of electronic service quality in customer satisfaction?

3. RESEARCH OBJECTIVES

The main objective of this research is recognizing determining factors in quality of electronic services and the role of quality in customer satisfaction.

4. RESEARCH HYPOTHESES

1. Factors of infrastructure, confidence, accountability, easy usage, security, access and time are effective in electronic services that totally these factors provide a model for assessing quality of electronic services in Aseman airline company.
2. Criterion of customer satisfaction of services is resulted from using the difference between customer expectations and received quality. And qualitative and quantitative models like Servqual, Kano, Fornell, ECSI and ACSI can be used for indexes of customer satisfaction from services.
3. Not to meet basic necessities and obligations of the customer’s expectation leads into the customer’s dissatisfaction. (basic obligations are primitive characteristics of any good or service that if they don’t exist, it will lead into customer’s dissatisfaction)
4. Service quality is a function of customer satisfaction.
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5. RESEARCH METHOD

According to its objective, the research is an applied research and according to data collection it is descriptive-survey. It is descriptive, because introduces a picture from status quo and is survey because of using survey approaches, it measures deviation from performance.

6. POPULATION AND SAMPLE

The population is passengers, managers, counselors and staff in Aseman airlines.

7. DATA COLLECTION METHOD

In this research, a questionnaire was used for collecting data, the questionnaire of current research is a result of an interview with some managers and experts of Aseman airlines about combination and general theme of the questionnaire, its design and in the framework of hypotheses and research questions. In order to evaluate electronic services, two questionnaires were used. In the first questionnaire, linguistic variables related to standards ranking in the form of triangular fuzzy numbers were considered for evaluating provisions of electronic services.

In the second questionnaire, AHP technique was used which after forming a qualitative paired comparison matrix, a compact and distance scale was used to make this matrix quantitative.

8. DATA ANALYSIS METHOD

For analyzing and drawing standards, qualitative function development and for ranking them, multi-standards decision making approaches were used as follows:

8.1. Ranking quality elements of services using FTOPSIS (Fuzzy Technique for Order Performance by Similarity to Ideal Solution)

In the method of similarity to classic ideal solution, for determining the weight of standards and ranking the variables, certain and exact values are used. Most of the times human thoughts are associated by uncertainty and it is effective in decision making. In these cases, it is better to use fuzzy decision making methods which the similarity to fuzzy ideal solution is one of these approaches. In this case, decision making matrix elements or standards value or both of them has been evaluated by linguistic variables which have been introduced by fuzzy numbers and thus the problems of the similarity to classic ideal solution was overcome. The similarity to fuzzy ideal solution was proposed by Hwang and Youn in 1981. According to this method, every MCDM problem with m option which is evaluated by n index, could be considered as a geological system including m point in an n dimension space. The similarity to fuzzy ideal solution is based on this concept that selective alternative should have the least distance with negative ideal solution (the worst possible status). Regarding that in this research, the ratio of quality elements importance was considered by fuzzy prospect, we try to use the similarity to introduced fuzzy ideal solution by Chen for ranking the most important elements of services quality.

The levels of similarity to ideal fuzzy solution

At first we consider fuzzy number $A=\{a, b, c\}$, according to fig.3.
Figure 3. Triangular fuzzy number.

Table 1. Expressive terms.

<table>
<thead>
<tr>
<th>Importance</th>
<th>Fuzzy number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very low (VL)</td>
<td>(0.0,0.2)</td>
</tr>
<tr>
<td>Low (L)</td>
<td>(0.1,0.2,0.3)</td>
</tr>
<tr>
<td>Middle low (ML)</td>
<td>(0.2,0.35,0.5)</td>
</tr>
<tr>
<td>Middle (M)</td>
<td>(0.4,0.5,0.6)</td>
</tr>
<tr>
<td>Middle high (MH)</td>
<td>(0.5,0.65,0.8)</td>
</tr>
<tr>
<td>High (H)</td>
<td>(0.7,0.8,0.9)</td>
</tr>
<tr>
<td>Very high (VH)</td>
<td>(0.8,1,1)</td>
</tr>
</tbody>
</table>

At first ten decision makers have evaluated mentioned standards by linguistic variables (above table). Then the matrix of determining standards weight is formed and using the following equation, we combine various theories:

\[
a_{ij} = \min_k \{a_{ijk}\}
\]

\[
b_{ij} = \sum_k b_{ijk}/c_{ij} = \max_k \{c_{ijk}\}
\]

eventually the certain equal of each standard is calculated using one of non-fuzzy approaches and ranking has been resulted (Mo' meni and Marmazi, 1386)

BNPij=1/4[LEij+2MEij+UEij]

8.2. Ranking service quality elements using AHP technique (analytical hierarchy process)

In this stage, the problem is analyzed by AHP model and is divided to some simpler parts. After specifying alternatives and indices, paired comparisons are done among indices. In next stage, paired comparisons are done for each index among alternatives. Then following algorithm is observed:

a) Normalizing paired comparisons matrix
b) Obtaining mathematical mean of each normalized matrix line of paired comparisons (relative weights)
c) Multiplying relative weights of indicators
d) Ranking the alternatives
After these stages, incompatibility rate is evaluated. For this, following stages are considered.

Step 1. Calculating weighted sum vector (WSV): Paired comparisons matrix (D) is multiplied by relative weighted vector. The resulted vector is called weighted sum vector. \[ WSV = D \times W \]

Step 2. Calculating consistency vector (CV): Weighted sum vector elements are divided by relative weighted vector. The resulted vector is called consistency vector.

Step 3. Calculating Eigen value of paired comparisons matrix \((\lambda_{\text{max}})\):
For calculating Eigen value of paired comparisons matrix, the mean of consistency vector elements is calculated.

Step 4. Calculating inconsistency index: Inconsistency index is calculated as follows:
\[
\frac{\lambda_{\text{max}} - n}{n - 1}
\]

Step 5. Calculating inconsistency rate (IR): For this, we have:
\[ IR = \frac{\text{IRI}}{n} \]
Here, inconsistency random index is a value which is drawn from following table. The inconsistency random index table has been obtained according to simulation and is in the form of table (2):

<table>
<thead>
<tr>
<th>n</th>
<th>10</th>
<th>9</th>
<th>8</th>
<th>7</th>
<th>6</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>IRI</td>
<td>1.51</td>
<td>1.45</td>
<td>1.42</td>
<td>1.32</td>
<td>1.24</td>
<td>1.12</td>
<td>0.9</td>
<td>0.58</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

In the case, inconsistency rate is smaller or equal to 0.1, thus there is consistency in paired comparisons and the operation could be continued; otherwise decision maker should revise paired comparisons (Ataie, 1388).

9. FINDINGS

The ranking was done using fuzzy TOPSIS method. Since fuzzy theory is a more suitable approach to evaluate verbal variables rather than logical theory, there is an attempt to rank the most important service quality elements using TOPSIS technique. Regarding that, the rate of service elements importance was studied in this research, we have an attempt to use the similarity to fuzzy ideal solution for ranking the most important service quality elements. In the next stage, AHP technique was used to rank elements. In this project, the ranking of elements was done using AHP which is one of the most efficient techniques of analytical hierarchy process and was proposed by Thomas Al Saati in 1980 for the first time. This method which is founded based on paired comparisons, determines the possibility of assessment and comparison among elements.

10. IDENTIFYING PARAMETERS EFFECTIVE ON SERVICE QUALITY USING QUALITY FUNCTION DEVELOPMENT (QFD)

All parameters effective on electronic services were identified according to literature in this field based on various models. Also, in order to identify these parameters, first customer needs are assessed which is done by quality function development (QFD) method. Fundamental steps of this process is identifying customer, his demand and how meeting his demands. The process of qualitative function development, a consistent structure of related activities is related to customer value processing. Fundamental steps for this process is as follows:

- Identifying customer
- Identifying what customer wants
- How meeting what customer wants
The result of using questionnaire was interviewing with various groups and also documents, complaint backgrounds and other existing documents, accessing fundamental demands. It should be mentioned that generally introduced demands include nearly 10 demands which after necessary studies with experts and eliminating unimportant and non-basic demands and cases which do not correspond to legal requirements, fundamental demands are specified as follows:

- **Speed**: the customers expect that the process of presenting electronic service to have suitable speed, so that they have a suitable service during a logical time.
- **Informing**: the customer desires to have information about the process of presenting service completely and the process of doing work and using system to be simple and easy.
- **Accountability**: the customer expect that working process to be done accurately and completely and be able to follow up his demands and the organization is responsible to this.
- **Trust**: the fourth element of customers is maintaining secrets in the field of confidential information and their credit cards information.
- **Accessibility**: fast and easy accessing to desired information inside portal.

The similar elements and factors which have equal features are classified according to researchers models which is the result of nine common factors and each of these elements are classified in three basic elements of infrastructure, information and process which its result has been proposed in diagram 1 of following model.

![Diagram 1. Proposing the model according to classification.](image)

The classified factors were ranked by AHP technique which the results are in Table 3.

<table>
<thead>
<tr>
<th>Ranking</th>
<th>weight</th>
<th>Information 0.37</th>
<th>Process 0.27</th>
<th>Organization 0.36</th>
<th>elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.36*0.58=0.2088</td>
<td>0</td>
<td>0</td>
<td>0.58</td>
<td>infrastructure</td>
</tr>
<tr>
<td>9</td>
<td>0.36*0.10=0.0360</td>
<td>0</td>
<td>0</td>
<td>0.10</td>
<td>staffs</td>
</tr>
<tr>
<td>4</td>
<td>0.36*0.32=0.1152</td>
<td>0</td>
<td>0</td>
<td>0.32</td>
<td>accountability</td>
</tr>
<tr>
<td>8</td>
<td>0.27*0.20=0.054</td>
<td>0</td>
<td>0.20</td>
<td>0</td>
<td>connection</td>
</tr>
<tr>
<td>6</td>
<td>0.27*0.33=0.0891</td>
<td>0</td>
<td>0.33</td>
<td>0</td>
<td>efficiency</td>
</tr>
<tr>
<td>3</td>
<td>0.27*0.47=0.1269</td>
<td>0</td>
<td>0.47</td>
<td>0</td>
<td>effectiveness</td>
</tr>
<tr>
<td>2</td>
<td>0.37*0.50=0.185</td>
<td>0.50</td>
<td>0</td>
<td>0</td>
<td>security</td>
</tr>
<tr>
<td>7</td>
<td>0.37*0.22=0.0814</td>
<td>0.22</td>
<td>0</td>
<td>0</td>
<td>beauty</td>
</tr>
<tr>
<td>5</td>
<td>0.37*0.28=0.1036</td>
<td>0.28</td>
<td>0</td>
<td>0</td>
<td>access</td>
</tr>
</tbody>
</table>
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Table 4. The results of FTOPSIS method.

<table>
<thead>
<tr>
<th>index</th>
<th>Certain number</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telecommunication And electronic infrastructures in Aseman airline</td>
<td>0.829</td>
<td>1</td>
</tr>
<tr>
<td>Ease of portal use</td>
<td>0814</td>
<td>2</td>
</tr>
<tr>
<td>Relying on security and maintaining information</td>
<td>0809</td>
<td>3</td>
</tr>
<tr>
<td>Relying on security and protecting credit cards information of customers</td>
<td>0.800</td>
<td>3</td>
</tr>
<tr>
<td>Storing portal information</td>
<td>0.789</td>
<td>3</td>
</tr>
<tr>
<td>Having appropriate bandwidth regarding customers</td>
<td>0.782</td>
<td>1</td>
</tr>
<tr>
<td>Accessibility of Aseman airline portal</td>
<td>0.764</td>
<td>4</td>
</tr>
<tr>
<td>Serviceability of portal</td>
<td>0.755</td>
<td>4</td>
</tr>
<tr>
<td>Updating portal</td>
<td>0.752</td>
<td>4</td>
</tr>
<tr>
<td>Fast performance of portal</td>
<td>0.742</td>
<td>4</td>
</tr>
<tr>
<td>Introducing service in an appropriate time framework</td>
<td>0.739</td>
<td>2</td>
</tr>
<tr>
<td>Organizing information within portal</td>
<td>0.733</td>
<td>2</td>
</tr>
<tr>
<td>Fast opening of portal pages</td>
<td>0.725</td>
<td>2</td>
</tr>
<tr>
<td>Complete service processing by portal</td>
<td>0.718</td>
<td>5</td>
</tr>
<tr>
<td>Guidelines for application</td>
<td>0.708</td>
<td>2</td>
</tr>
<tr>
<td>Accuracy in service delivery</td>
<td>0.706</td>
<td>5</td>
</tr>
<tr>
<td>Existing simple and standard processes in Aseman airlines</td>
<td>0.698</td>
<td>5</td>
</tr>
<tr>
<td>Attractiveness and beauty of portal</td>
<td>0.695</td>
<td>6</td>
</tr>
<tr>
<td>Directing customers and introducing suitable solution for successful operation when incomplete oppression</td>
<td>0.641</td>
<td>7</td>
</tr>
<tr>
<td>Guiding by an alive person when encountering a problem</td>
<td>0.628</td>
<td>8</td>
</tr>
<tr>
<td>Accessing organization by phone</td>
<td>0.618</td>
<td>8</td>
</tr>
<tr>
<td>Existence of ICT expert man power in Aseman airlines</td>
<td>0.615</td>
<td>9</td>
</tr>
<tr>
<td>Stuff satisfaction</td>
<td>0.581</td>
<td>9</td>
</tr>
</tbody>
</table>

DISCUSSION AND RESULT

This research has had two serious innovations. One of them is localization and identifying parameters which have effective and serious effect on the quality of introduced services electronically in Iran airlines. For this purpose, the development of qualitative function of these factors became according to Aseman airlines passengers’ demands using engineering devices. Qualitative function development or QFD is one of quality engineering devices along customer perception which core of this model is based on this assumption that desires of an organization customers are identified and the whole process of service delivery is calibrated along accounting specified requirements. The second type of innovation in this research is determining relative importance of each factor. this case was done using multiple standards logical and fuzzy decision making techniques. TOPSIS fuzzy is used for identifying weighted standards and ranking alternatives, certain values are used. Most of the times human thoughts are associated by uncertainty and it is effective on decision making. In these cases it is better to use fuzzy decision making methods which similarity to fuzzy ideal solution is one of these methods. In this situation the factors of decision making matrix or weighted standards or both of them are evaluated by verbal variables which have been introduced by fuzzy numbers and thus the problem of the similarity to classic ideal solution has been resolved.

According to above items, following results are obtained:

The most important specified factor which is in the first level in both methods and has a significant difference with other alternatives is infrastructure.
Second important factor is security analytical hierarchy methods and accessibility fuzzy TOPSIS method.

Third factor is effectiveness hierarchy analysis method and security fuzzy TOPSIS method.

There is no significant difference between introduced models about electronic quality and suggested model. The most important difference elements are in ranking which is observed that in Iran, some elements like infrastructure, security and accessibility are so important but in foreign models it is not so.

Regarding that customers’ desires follow environmental conditions and these factors is based on customers desires, elements ranking could be changed during time. So, the satisfaction of the customer cause providing quality in service.

Practical suggestions

The findings in this research could have an effective role in identifying weak and strength points in service systems in Aseman airlines. Also the findings of this research could be used for other similar organizations. As we stated in conclusion, regarding that customers demands follow environmental conditions and these factors are based on customers demands, factors’ ranking could be changed during time. Now considering this point, after electronic services in organizations, determining elements of services should be classified according to customer demands to meet customer satisfaction and access higher quality services.

REFERENCES

[1] Soltani Delgosha Muhammad, 1388 “the study of effective factors on citizen satisfaction in using electronic services”, second electronic city conference