The Influence of E-Service Quality on Customer Perceived Value: A Study on Domestics Tourists in Turkey

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Abstract: The objective of this study was to determine the e-service quality dimensions of web sites offering touristic services over the internet to domestic tourists and to measure the affiliation of these dimensions with the quality of e-service as well as the affiliation of the perceived value with the e-service quality. The study population consisted of the academic and administrative staff of Mersin University. E-core service quality (E-S-QUAL) and e-recovery service quality (E-RecS-QUAL) scales and a survey measuring perceived value were used as tools to collect data for the application and data was obtained from 360 recipients in total. Percentage, descriptive analysis such frequency were used to analyze the obtained data as well as explanatory and confirmatory factor analysis (EFA, CFA), statistical tests such as reliability analysis. Furthermore the affiliation between e-service quality and perceived value was analyzed with structural equation modeling (SEM). At the end of the study it was determined that there was a positive and strong affiliation between e-service quality and perceived value. In addition the E-S-QUAL and E-RecS-QUAL scales of Parasuraman, Zeithaml & Malhotra, (2005) consisting of 7 dimensions were found to be 6 in this study. These dimensions are efficiency, system availability, fulfillment, privacy (E-S-QUAL), responsiveness-compensation and contact (E-RecS-QUAL).

Keywords: E-Service Quality, Perceived Value, Domestic Tourists, Turkey, Structural Equation Modeling

1. Introduction

Competition is increasing with increasing demands from the tourism industry which causes the expectations of consumers to rise and service suppliers are obliged to engage in further attempts to find new methods to satisfy these expectations. The internet and developments in information technologies may be a solution for these problems in the tourism industry (Haghtalap, Tarzeh & Nabizadeh, 2012). Today information and communication technologies are spreading rapidly and it is widely accepted that they affect the competition between companies as well as the quality and activity methods (Pritwani & Sharma, 2011; Kao, Louvieris, Perry & Buhalís, 2005). With the increasing popularity of online shopping the domain of the current business world endeavors to transmit their resources into the virtual business world to enhance their competitive advantage (Sam & Tahir, 2009). The basic reasons for transition into the electronic environment is to ensure opportunities such as better information management, better supply integration, better distribution channel partners, lower processing costs, better knowledge about the market, global accessibility and rapid communication (Pritwani & Sharma, 2011; Haghtalap, Tarzeh & Nabizadeh, 2012; Moharrer, Tahayori & Sadeghian, 2013).

It has been around fifty years since the development of the first mainframe computer, thirty years since introduction to personal computers and over 20 years since the inception of the world wide web and its permutation into many areas and impact on daily transactions (Moharrer, Tahayori & Sadeghian, 2013). In recent the internet has become a major electronic distribution channel in the development of demand and tourism products (Law, Leung and Wong, 2004). Because of the savings in costs and time the number of users of the internet which is a strong communication tool is rapidly increasing (Nikhashemi, Paim, Yasmin & Yousefi, 2013). Currently the estimated population of the world is 7.181.858.619 and approximately 2.802.478.934 are internet users. There are 632 million internet users only in China (http://www.internetworldstats.com, 2014). It is impossible to estimate the number of internet users shopping on line yet is is believed that 27% of the world’s population shops online (http://www.dealjoy.com, 2014). Furthermore according to available data 1.233 billion USD was spent online and this figure is expected to reach 1.92 trillion USD in 2016 (http://www.statista.com, 2014).


Both information and communication technologies (ICT) and tourism grow rapidly to ensure strategic opportunities in the global framework, powerful tools for economic growth, the redistribution of prosperity as well as equal development (Nikhashemi, Paim, Yasmin & Yousefi, 2013; Kim, Chung & Lee, 2011; Ho & Lee, 2007). For the past thirty years tourism has been closely affiliated with the advancement of information and communication technologies (ICT). By presenting tourists with comprehensive information about the places of attraction before their trips ICT is able to
enhance the satisfaction of the tourists. According to the statistics of the World Tourism Organization countries without ICT infrastructure are unable to keep up with the tourism growth of countries with developed ICT infrastructures (Mohamed & Moradi, 2011).

Ideally the structure of the tourism industry is appropriate for the internet: (1) the product presented by the tourism industry is concrete; (2) production and consumption cannot be separated; (3) the demand is perishable and fluctuates significantly (Kim, Chung & Lee, 2011). The internet is one of the most significant platforms to provide services for the relevant travel service initiatives and transmit information to the target groups (Ho & Lee, 2007). During recent years as a result of the e-commerce and online transactions the internet has rapidly developed in the tourism industry which enables the tourism and hospitality industry to capture a share in the market and develop their competitiveness (Nunkoo & Ramkisson, 2013; Ho & Lee, 2007). E-tourism has been established by enabling traditional travel agencies, tour operators, national tourism organizations, airlines, car rental companies, hotels and other accommodation suppliers to present their services online. This allows tourists to program their tours online and enables tourism service suppliers to carry out their work with a new method (Moharrer, Tahayori & Sadeghian, 2013).

It is important for both market researchers as well as online store managers to understand the e-service quality in terms of online shopping and the determinant dimensions of the value perceived by the customer. Furthermore service quality in online environments is a significant determinant of the productivity of e-commerce and the perceived value (Chen, Tsai, Hsu & Lee, 2013; Yang, 2001; Lee & Lin, 2005). Usually online customers expect a better or the same level of service compared to traditional channels (Lee & Lin, 2005). Studies carried out in many areas have tested the affiliation of consumer loyalty and the perceived value and service quality dimensions of online shoppers (Chinomona, Masinge & Sandada, 2014; Roman, Gonzales & Idoeta, 2013; Wood & Heerden, 2007; Lee & Lin, 2005; Parasuraman, Zeithaml, & Malhotra, 2005; Zeithaml, Parasuraman & Malhotra, 2002; Chang & Hsu, 2013; Sam & Tahir, 2009).

In the first two parts of the study the concepts of e-service quality, its dimensions and perceived value are defined and the relevant literature is examined. The hypotheses of the established study model are tested in the third part. The objective of the study is to determine the dimensions of the e-service quality of the web sites from which domestic tourists procure tourism services and measure the affiliation of the e-service quality of these dimensions and the perceived value of the e-service quality. It is anticipated that the dimensions of the e-service quality acquired from the results of the study and the impact of the quality of this e-service can assist e-tourism managers competing on the e-market.

2. Literature Review

2.1 E-Service Quality

The first scientific studies on Service quality derived from the comparison of the existing service performance of a company with the expectations and experiences of the customers from the company. Service quality can also be defined as surpassing the expectations of the customer (Parasuraman, Zeithaml and Berry, 1985). Parasuraman, Zeithaml & Berry (1985) argued that regardless of the type of service, consumers determined service quality by using 10 different criteria called service quality determinants. These criteria were physical elements, reliability, responsiveness, communication, consistency, safety, competence, respect, accessibility and empathy. Subsequently the number of these criteria were reduced to five, namely tangibles, reliability, responsiveness, assurance and empathy (Parasuraman, Zeithaml & Berry, 1988).

In order to define the measuring of the different service quality between online and offline services, in other words define the dimensions determining the quality of e-service, it is necessary to develop their own dimensions rather than adapt traditional offline scales (Parasuraman, Zeithaml, & Malhotra 2005). Furthermore, Ho & Lee (2007) indicate that instead of adapting existing versions of scales which have been established there is a need to develop a scale which takes the structures of the sectors into consideration.

The perceived e-service quality is again assessed by the consumer in terms of both procurement and distribution of the service provided by the company as well as to what degree the expectations of the consumers are fulfilled by the service outputs after distribution (Grönroos, Helnonen, Isonlemi & Lindholm, 2000). Santos (2003) defined e-service quality as “all customer assessments and judgements regarding the quality and superiority of e-service distribution on virtual shopping sites”.

The most distinctive difference between electronic service quality and traditional service quality is that interpersonal interaction is replaced by human-machine interaction. This simple difference has lead to the necessity of evaluating different dimensions in order to assess service quality in terms of e-commerce (Hapenciu and Condratov, 2007).

Usually many criteria by which customers assess web sites are used in academic studies. Usually criteria such as (1) information availability and content, (2) ease of use or usability, (3) privacy/security, (4) graphic style, and (5) fulfillment are included in these criteria (Zeithaml, Parasuraman & Malhotra, 2002).

Quality is defined as the ability of goods or services fulfilling the requirements and expectations of a customer (Erkut, 1995:38). Web site service quality or e-service quality were initially defined by Zeithaml, Parasuraman and Malhotra (2000) and e-service quality could be defined as the measure of efficient and effective shopping of web site activities, procurement and the delivery of the product and services (Parasuraman, Zeithaml, & Malhotra, 2005). Today electronic services are realized by various electronic
methods such as the internet, e-mail, mobile phone, personal computer, ATM, POS, credit card and smart card (Kumbhar, 2012).

The literature regarding the measuring and conceptualization of e-service quality is quite various and lacks consensus (Chen, Tsai, Hsu & Lee, 2013). Long and McMellon (2004) developed a measurement tool to assess the quality of perceived online service. They carried out a study which assessed the interpretations of customers shopping online regarding services. They determined 53 attributes regarding the quality of online service and concluded their study by focusing on tangibility, (physical evidence of service), assurance (trust and confidence), reliability (performance and dependability), purchasing process, responsiveness (individualized attention) as dimensions.

The study carried out by Chen, Tsai, Hsu & Lee (2013) on the impact of e-service quality on the value and loyalty perceived by online customers generated three main dimensions from various sub-dimensions. These dimensions were determined as interaction quality (ease of use, responsiveness, information quality), environmental quality (visual, significance) and product quality (the realization of the order, reliability and emotional benefits).

Roman, Gonzalez & Idoeta (2013) carried out a study on undertaking/commitment, loyalty and customer satisfaction regarding online markets. The authors converged online service quality with the findings in literature and emerged with three dimensions which were process quality, outcome quality and recovery quality.

Vazifehdust, Ameleh, Esmaeilpour & Khadang (2014) carried out a study in Iran in the banking sector and determined the dimensions of e-service quality as Ease of use, Website design, Reliability, Privacy and Responsiveness. Swaid and Wigand (2009) endeavored to develop a valid e-service quality scale and concluded their study by determining 6 dimensions (information quality, website usability, reliability, responsiveness, assurance and personalization).

Ho & Lee (2007) developed an e-travel service quality scale to define and develop a valid and reliable measurement tool. Their study determined five fundamental dimensions regarding e-travel service quality (information quality, security, web functionality, customer relationship and responsiveness).

Wood and Heerden (2007) measured the affiliation of e-loyalty, e-service quality, e-value and e-satisfaction on online tourism portals. The authors determined four dimensions which established e-service quality (effective communication, user interface and marketing, value-add and customisation).

Lee & Lin (2005) determined five factors which established the perceived e-service quality of customers in online shopping (website design, reliability, responsiveness, trust and personalization). Sam and Tahir (2009) determined six dimensions which established web site quality in airline ticketing. These factors were usability, website design, information quality, trust, perceived risk and empathy.

Parasuraman, Zeithaml & Malhotra (2005) conceptualized, structured and tested a multi-item scale to measure the service quality presented to customers shopping online (E-S-QUAL). The study resulted in the establishment of 2 different scales for the framework of e-service quality. First the e-core service quality (E-S-QUAL) scale consisting of four dimensions and 22 items were developed. These dimensions were efficiency, system availability, fulfillment and privacy. The second scale consisting of three dimensions and 11 sub-items which were e-recovery service quality (E-RecS-QUAL) measured whether or not the problems of customers encountering various non-existant difficulties were resolved. The dimensions comprised of responsiveness, compensation and contact.

According to Parasuraman, Zeithaml, & Malhotra (2005) E-S-QUAL dimensions web sites have measured the quality level of service and their dimensions are as follows; 1) Efficiency: Measures the usage of the site, access speed and facilitation. 2) Fulfillment: Consists of the dimensions of the fulfillment of the goods and services executed and delivered by the site. 3) System Availability: Contains the appropriate technical functions of the site. 4) Privacy: Involves the level of protection provided by the site in terms of security and customer information.

According to Parasuraman, Zeithaml, & Malhotra (2005) E-RecS-QUAL web sites have measured the quality level of service correction and their dimensions are as follows; 1) Responsiveness: Measures the ability to handle problems effectively and provide feedback through the site. 2) Compensation: Measures the level of compensation to customers because of problems. 3) Contact: Measures the ability to support through telephone or online customer representatives.

2.2 Perceived Value

Customer perceived value is a concept which has drawn the attention of industrial marketing researchers during the past years (Chinomon, Masinge & Sandada, 2014; Vazifehdust, Ameleh, Esmaeilpour & Khadang, 2014; Chang ve Hsu, 2013; Chen, Tsai, Hsu & Lee, 2013; Razavi, Safari, Shafie & Khoram, 2012; Kuo, Wu & Deng, 2009; Wood and Heerden, 2007). As a practical rule presenting the customer with high value is a key factor in establishing and maintaining long term customer-supplier relations (Razavi, Safari, Shafie & Khoram, 2012; Fiol, Alcaniz, Tena & Garcia, 2009). Perceived value is defined as “the total evaluation of the benefits of a product by the customer about what was purchased and what was received in terms of goods or services” (Wood and Heerden, 2007). Many studies have shown that customer value is the link between online purchase/repurchase and perceived e-service quality (Bressolles and Durrieu, 2011; Chang and Wang, 2008; Zeithaml, Parasuraman and Malhotra, 2002). In a study carried out by Zeithaml (1988) value was defined as “quality received for payment”. As a result of the evaluation of the

Volume 4 Issue 1, January 2015
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benefits perceived by the consumer and the perceived costs regarding a product/service a perceived value is established in the mind of the consumer regarding the relevant product/service (Dursun and Çerçi, 2004).

2.3 Hypotheses

E-Service Quality Dimensions

In many of the studies while the dimensions of e-service quality are being determined the overall impact of these dimensions on e-service are also studied. After determining the e-service dimensions of two privately owned shopping sites Parasuraman, Zeithaml & Malhotra (2005) discovered that the efficiency and fulfillment dimensions had a significant and positive impact on the overall quality of e-service. However, system availability and privacy dimensions appeared to have no significant impact on the overall quality of e-service. Studies by Lee and Lin (2005) determined that website design, reliability, responsiveness and trust dimensions had a positive and significant overall impact on the quality dimensions of e-service whereas personalization appeared to have no impact. Wu (2011) determined that over all e-recovery service quality (E-RecSQUAL) dimension had a significant and positive effect on perceived service quality level of customers. Furthermore Paschaloudis (2014) emerged the dimension of contact was more effective than responsiveness and compensation dimensions on the customer perceptions of e-banking websites in his study of using E-S-QUAL to measure internet service quality of e-banking sites in Greece.

H1: Efficiency has a positive impact on e-service quality.
H2: System availability has a positive impact on e-service quality.
H3: Fulfillment has a positive impact on e-service quality.
H4: Privacy has a positive impact on e-service quality.
H5: Responsiveness has a positive impact on e-service quality.
H6: Compensation has a positive impact on e-service quality.
H7: Contact has a positive impact on e-service quality.

E-Service Quality-Customer Perceived Value

Many studies have been carried out to examine the relationship between traditional retail and online shopping and the perceived value of customers and service quality (Vazifehdust, Ameleh, Esmaeilpour & Khadang, 2014; Chinomona, Masinge & Sandada, 2014; Chen, Tsai, Hsu & Lee, 2013; Chang and Hsu, 2013; Kuo, Wu & Deng, 2009). The studies of Vazifehdust, Ameleh, Esmaeilpour & Khadang (2014) determined that the main dimensions contributing to the quality of e-service in terms of consumer perceived value in e-banking were web site design and responsiveness. Chen, Tsai, Hsu & Lee (2013) studied customer perceived values in two ways as utilitarian value and hedonic value. Their study showed that while interaction quality and environmental quality dimensions in terms of e-service quality dimensions enhanced utilitarian value, they had no significant impact on hedonic value. Product quality had a significant and positive impact on both utilitarian value as well as hedonic value. A study carried out by Chang and Hsu (2013) determined that contrary to procurement of online tourism products in Taiwan the online service quality dimension had a significant and positive impact on customer perceived value. The studies of Chinomona, Masinge & Sandada (2014) determined that the impact of e-service quality on the perceived value of South African customers had a significant and positive impact on the customer perceived value of e-service quality. Studies by Kuo, Wu & Deng (2009) determined that online service quality had a significant and positive impact on perceived value. Parasuraman, Zeithaml & Malhotra (2005) determined that in terms of e-service quality dimensions efficiency and fulfillment had a significant and positive impact on online customer perceived value. However, system availability and privacy dimensions had no significant impact on online customer perceived value.

H8: E-service quality has a positive impact on customer perceived value.

3. Data and Methods

The objective of the study was to determine the e-service quality dimensions of the web sites from which domestic tourists procured tourism services online as well as the affiliations of these dimensions with e-service quality and measure the affiliation of the e-service quality with the perceived value. The population for the study consisted of the academic and administrative staff of Mersin University. The basic reason for this was the frequency university staff
used computers and the internet and it was also believed that their adoption of the tourism phenomenon was more advanced than that of other groups. Based on the numerical data obtained from the Personnel Department of Mersin University it was determined that as of 2014 there were 1552 academic and 1494 administrative staff working in Mersin University. The total population consisted of 3046 persons. Instead of using all the individuals comprising the population, the ‘convenience sampling’ method in which the individuals who wanted to be a part of the sampling were used in the study (Altunişik, Coşkun, Bayraktaroğlu, & Yıldırım, 2005:132; Ural and Kılıç, 2006:44). According to the ‘acceptable sample sizes for certain populations’ table determined by Sekaran (1992) on a certainty level of α=0.05 a sample group of 346 persons for a population of 3046 is sufficient (trans. Altunişik, Coşkun, Bayraktaroğlu, & Yıldırım, 2005:127).

Before starting the survey the recipients were asked whether they had purchased a holiday online, only those who had researched and purchased holidays online were included in the survey. The survey which was used to gather data for the study consisted of four parts. The first part involved the individual characteristics of the recipients (gender, age, marital status, position in the organization, education level, frequency of visiting web sites for holiday purposes) while the second part consisted of E-S-QUAL 21 items and four basic dimensions (efficiency, system availability, fulfillment and privacy). The third part consisted of E-RecS-QUAL 11 items and 3 basic dimensions (responsiveness, compensation and contact). The E-S-QUAL ve E-RecS-QUAL scales established by Parasuraman, Zeithaml & Malhotra (2005), the most widely accepted pioneers of the servqual concept were used. The perceived value scale in the fourth part was measured with four similar items used in previous studies by Parasuraman, Zeithaml & Malhotra (2005) (Dodds, Monroe, & Grewal, 1991; Sirdeshmukh, Singh, & Sabol, 2002). All the measurement items were measured on a five-point Likert-type scale that was anchored by 1=strongly disagree to 5=strongly agree to express the degree of agreement.

In order to achieve a more significant and interpretable resolution it is necessary to delete the low load factor (less than 0.40) or statements loading more than one factor at the same time (Hair, Anderson, Tatham, & Black, 2009:116). A pre-test was conducted on academic and administrative staff of Anamur Vocational Graduate School. After the pilot application which included 32 persons the variable of “It sends out the items ordered”, included fulfillment dimension was deleted in the scale because it had low factor load. After the main study which was included 360 persons 1more item “It picks up items I want to return from my home or business”, included compensation dimension was deleted in the scale because it loaded more than one factor at the same time. 50 of the survey forms generated after the pilot application were forwarded to all units in Mersin University. Only those who had used holiday web sites previously were asked to fill the survey forms. Within this framework incomplete, erroneous survey forms and those that were not returned were taken into consideration and a total of 360 survey forms out of the distributed 400 forms were assessed.

Explanatory (EFA) and confirmatory (CFA) factor analyses were applied for structural validity and Cronbach’s Alpha coefficients were calculated to test the reliability of internal consistency. The obtained data were analyzed with SPSS 11.0 for Windows and Lisrel 8.72 packaged software.

3.1. Findings

According to Table 1, 62% of the 360 university academic and administrative staff who were researched regarding their attitude towards purchasing an e-holiday online were men, 52.8% were in the 25-40 age group and 38.6% were in the 41-55 age group. 66.4% of the recipients were married and 65.6% consisted of academic personnel. Due to the fact that the recipients were university staff the education level of 50% was postgraduate and 29.4% had bachelor’s degrees. Furthermore, the average frequency of 61.1% of the recipients visiting e-holiday web sites per year was 4 times or less while 10.3% visited such web sites 13 and more times per year.

Table 1: Distribution of the participants according to demographic characteristics

<table>
<thead>
<tr>
<th>Variable Group</th>
<th>Number (f)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>224</td>
<td>62.2</td>
</tr>
<tr>
<td>Female</td>
<td>136</td>
<td>37.8</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>239</td>
<td>66.4</td>
</tr>
<tr>
<td>Single</td>
<td>121</td>
<td>33.6</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25 and under</td>
<td>23</td>
<td>6.4</td>
</tr>
<tr>
<td>Age between 25-40</td>
<td>190</td>
<td>52.8</td>
</tr>
<tr>
<td>Age between 41-55</td>
<td>139</td>
<td>38.6</td>
</tr>
<tr>
<td>56 and over</td>
<td>8</td>
<td>2.2</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary school</td>
<td>5</td>
<td>1.4</td>
</tr>
<tr>
<td>High school</td>
<td>32</td>
<td>8.9</td>
</tr>
<tr>
<td>Associate degree</td>
<td>37</td>
<td>10.3</td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>106</td>
<td>29.4</td>
</tr>
<tr>
<td>Postgraduate degree</td>
<td>180</td>
<td>50.0</td>
</tr>
<tr>
<td>Job</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic</td>
<td>236</td>
<td>65.6</td>
</tr>
<tr>
<td>administrative staff</td>
<td>124</td>
<td>34.4</td>
</tr>
<tr>
<td>Frequency of Web site visits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 or less times a year</td>
<td>220</td>
<td>61.1</td>
</tr>
<tr>
<td>5 to 8 times a year</td>
<td>87</td>
<td>24.2</td>
</tr>
<tr>
<td>9 to 12 times a year</td>
<td>16</td>
<td>4.4</td>
</tr>
<tr>
<td>13 or more times a year</td>
<td>37</td>
<td>10.3</td>
</tr>
<tr>
<td>Total</td>
<td>360</td>
<td>100.0</td>
</tr>
</tbody>
</table>

3.2 Data Analysis

SPSS 11.0 for Windows and LISREL 8.72 software packages developed for computer analysis in social sciences were used to analyze the data collected by the study survey. The statistical data were handled in terms of descriptive and inferential statistics. Therefore first the findings for the demo graphic questions were obtained and subsequently the frequency distribution was determined. In the second stage, the reliability of the data (Cronbach's alpha) was tested. In order to determine the variables more clearly after the application of exploratory factor analysis (EFA) (Principal Component Analysis) on the data the LISREL 8.72 program was used to run a confirmative factor analysis and models foreseen according to compliance statistics results were developed, hypothesis and structural equation were tested.
The hypotheses in the study were analyzed with structural equation modeling which was a multi-variable statistics method. Structural equation model (SEM) is a statistics technique which executes a hypothesis test approach on multi-variable analyses and its basic feature is that it is wholly based on theory. The importance of SEM in terms of studies is to reveal whether the possible affiliation pattern / patterns between previously determined variables is verified by the data in the theoretical framework. For this reason SEM studies are used to test very specific hypotheses (Şimşek, 2007:1).

The study model was adapted to the structural equation modeling-SEM and tested. The objective of the SEM study is to test the model which comprises an essentially solid theoretical study. It is the initial phase of testing the model. The testing of multiple models may become an issue in confirmatory factor analysis (CFA) used in scale studies and path analysis studies in which cause and effect affiliation are tested (Şimşek, 2007:1).

### 3.3 Validity and Reliability Analysis

Cronbach alpha values were calculated to test the reliability of the scales. E-S-QUAL alpha value turned out to be 0.95 while the alpha value for E-Recs-QUAL was 0.93. These reliability values are acceptable, in fact it can be said that their limits are rather high. This indicates that scales used in the study fulfill the criteria for reliability and validity.

In addition, before starting on the structural equation model a goodness of fit index displaying the harmony between the latent variables used in the study to measure validity and reliability and the observed variables must be determined. If the Goodness-of-fit statistics of the measurement model are below certain critical values the measurement model should be modified. A measurement model with Goodness-of-fit statistics exceeding the critical value will pass onto the next phase. At this phase confirmative factor analysis (CFA) for structural validity and variance estimates explaining the factors for reliability and the reliability coefficients of the factors are used. In the confirmative factor analysis the accuracy rate of the latent variables to be used in the model will be studied and measured to determine whether the observed variables for each latent variable explain the relevant affiliated latent variable. The CFA must reveal that the standardized factor loads of the latent variables over the relevant observed variables have a value higher than 0.70 and the ‘t’ value must be significant. In terms of reliability it is expected that the reliability coefficients of the latent variables are over 70% and the explained variance estimate values are over 50% (Duran and Özkul, 2012). The fact that all t values of the measurement model, in other words all parameter values are significant is not singlehandedly sufficient to make the model correct or acceptable. To enable the measurement model to be accepted as a whole the Goodness-of-fit statistics must also comply with the desired level. (Küçüلكusta, 2007:175).

### Table 2: CFA and EFA Results for the E-Service Quality Scale

<table>
<thead>
<tr>
<th>Factors</th>
<th>CFA Loadings*</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-S-QUAL (coefficient alpha=.95)</td>
<td><strong>Variance Explained</strong>=46.59 $\bar{X}$=3.75 eigenvalues=12.52</td>
</tr>
<tr>
<td>Efficiency (coefficient alpha=.94)</td>
<td><strong>Variance Explained</strong>=3.44 $\bar{X}$=3.39 eigenvalues=1.00</td>
</tr>
<tr>
<td>EFF4 Information at this site is well organized.</td>
<td>0.85</td>
</tr>
<tr>
<td>EFF2 It makes it easy to get anywhere on the site</td>
<td>0.83</td>
</tr>
<tr>
<td>EFF3 It enables me to complete a transaction quickly</td>
<td>0.84</td>
</tr>
<tr>
<td>EFF1 This site makes it easy to find what I need</td>
<td>0.78</td>
</tr>
<tr>
<td>EFF6 This site is simple to use</td>
<td>0.84</td>
</tr>
<tr>
<td>EFF7 This site enables me to get on to it quickly</td>
<td>0.78</td>
</tr>
<tr>
<td>EFF5 It loads its pages fast</td>
<td>0.78</td>
</tr>
<tr>
<td>SYS1 This site is always available for business</td>
<td>0.74</td>
</tr>
<tr>
<td>SYS2 This site is well organized</td>
<td>0.73</td>
</tr>
<tr>
<td>System Availability (coefficient alpha=.76)</td>
<td><strong>Variance Explained</strong>=46.59 $\bar{X}$=3.75 eigenvalues=12.52</td>
</tr>
<tr>
<td>SYS3 This site does not crash</td>
<td>0.71</td>
</tr>
<tr>
<td>SYS4 Pages at this site do not freeze after I enter my order information</td>
<td>0.87</td>
</tr>
<tr>
<td>Fulfillment (coefficient alpha=.94)</td>
<td><strong>Variance Explained</strong>=1.82 $\bar{X}$=3.35 eigenvalues=1.40</td>
</tr>
<tr>
<td>FULFill4 It has in stock the items the company claims to have</td>
<td>0.87</td>
</tr>
<tr>
<td>FULFill1 It delivers orders when promised</td>
<td>0.87</td>
</tr>
<tr>
<td>FULFill2 This site makes items available for delivery within a suitable time frame</td>
<td>0.87</td>
</tr>
<tr>
<td>FULFill6 It makes accurate promises about delivery of products</td>
<td>0.86</td>
</tr>
<tr>
<td>FULFill3 It quickly delivers what I order</td>
<td>0.79</td>
</tr>
<tr>
<td>FULFill5 It is truthful about its offerings</td>
<td>0.83</td>
</tr>
<tr>
<td>Privacy (coefficient alpha=.89)</td>
<td><strong>Variance Explained</strong>=4.62 $\bar{X}$=3.26 eigenvalues=1.24</td>
</tr>
<tr>
<td>PRIVACY2 It does not share my personal information with other sites</td>
<td>0.84</td>
</tr>
<tr>
<td>PRIVACY3 This site protects information about my credit card</td>
<td>0.88</td>
</tr>
</tbody>
</table>
Table 2. As a result of the explanatory factor analysis carried out for the E-S-QUAL and E-RecS-QUAL dimensions it was determined that the E-S-QUAL scale consisted of four sub-dimensions (efficiency, system availability, fulfillment and privacy) while the E-RecS-QUAL scale consisted of two sub-dimensions (responsiveness & compensation and contact). 20 observed variables were used in the measurement tool regarding E-S-QUAL whereas 10 variables were involved in the measurement tool for E-RecS-QUAL. The Barlett test results following the EFA turned out to be 9486.683 with a p significance value (p<0.000). This value indicates that there are high correlation values between the variables. The Kaiser-Meyer-Olkin (KMO) sample value is 0.940. This value is sufficient to apply the factor analysis (Kalaycı, 2008:322).

Explanatory (EFA) and confirmatory (CFA) factor analyses were used primarily for E-S-QUAL and E-RecS-QUAL scales. At the end of the EFA applied to the factors of E-S-QUAL and E-RecS-QUAL scales chi-square (χ²), degree of freedom ratio of chi-square (χ² / df), goodness of fit index, GFI, normed fit index, NFI, adjusted goodness of fit index, AGFI, comparative fit index, CFI and root mean square error of approximation, RMSEA were used to assess the model. The GFI, AGFI and CFI values vary between 0 and 1 and the values of .90 and more indicate a good fit. Also, .05 and lesser values for RMSEA varying between 0 and 1 indicate a good fit, .08 and approximated values indicated a medium level fit and values of .10 and more are indicators of a poor fit (Çelik and Yılmaz, 2013:39; Çoluklu, Şekerçioğlu & Büyükköztürk, 2010: 271; Kavas, 2012).

E-S-QUAL and E-RecS-QUAL which are the fundamental dimensions of electronic service quality are displayed in Table 2. As a result of the explanatory factor analysis carried out for the E-S-QUAL and E-RecS-QUAL dimensions it was determined that the E-S-QUAL scale consisted of four sub-dimensions (efficiency, system availability, fulfillment and privacy) while the E-RecS-QUAL scale consisted of two sub-dimensions (responsiveness & compensation and contact). 20 observed variables were used in the measurement tool regarding E-S-QUAL whereas 10 variables were involved in the measurement tool for E-RecS-QUAL. The Barlett test results following the EFA turned out to be 9486.683 with a p significance value (p<0.000). This value indicates that there are high correlation values between the variables. The Kaiser-Meyer-Olkin (KMO) sample value is 0.940. This value is sufficient to apply the factor analysis (Kalaycı, 2008:322).

Marimon (2011) determined two sub-dimensions (responsiveness & compensation and contact) in E-RecS-QUAL scale on e-banking web sites in Spain and supported the present study results.

According to Table 2, at the end of the EFA it was determined that the eigenvalue of the e-service quality scale was greater than 1 and had collected under six factors explaining 76.06 % of the total variance. The factor loads for the items and all of the item-scale correlations were greater than 0.40. Furthermore it was determined that all of the Cronbach’s Alpha values calculated for the scale and sub-scale were greater than 0.70. These values indicate that the internal consistency levels of the scales are sufficient.
A confirmatory factor analysis was applied on the 30 variable six dimensional e-service quality scale determined with the explanatory factor analysis to study the structural validity of the scale. The CFA concludes that the value was significant (1559.72, \(p < .000\)). Chi-square values are usually significant in large sample groups. For this reason it is recommended that the ratio of \(\chi^2 / sd\) is taken into consideration (Kavas, 2012). Accordingly it is observed that the ratio of \(\chi^2 / sd\) (1559.72 / 390 = 3.99) is 4 and greater than 4 and indicates an insufficient fit. At the same time the other goodness of fit indices obtained from the CFA show that the fit of the model is inappropriate. Accordingly a review of the correction indices reveals that a random observed variable in the first group had not been affiliated with any other implied variable. Recommendations regarding the covariance definitions among the variable errors observed in the correction index of the second group were made. According to Table 2, it was observed that there was an affiliation between the variable “EFF2” observed in the initial Efficiency dimension and the errors in the “EFF1”, “EFF3”, “EFF7”, “EFF6” and “EFF4” variables, among the errors observed in variables “EFF7” and “EFF6” and “SYS1”, the errors observed in variables “SYS1” and “EFF4”, the errors observed in variables “EFF6” and “EFF3”, the errors observed in variables “RESP2” and “RESP1”, the errors observed in variables “COMPEN2” and “COMPEN1”, the errors observed in variables “RESP5” and “RESP4”, the errors observed in variables “FULL6” and “FULL4” and the errors observed in variables “FULL3” and “FULL2”. A review of these items shows that in terms of semantics they are close so the error covariances for these items were added into the model and the analysis was repeated (Kavas, 2012). The results of the repeated CFA showed that the \(\chi^2 / sd\) ratio (954.97/ 376= 2.53) was less than 3 which indicated an acceptable fit. Furthermore, the obtained goodness of fit indices indicate a sufficient fit level (RMSEA=.06, CFI=.98, NFI=.97, GFI=.85, AGFI=.81). Although the values of GFI=.85 and AGFI=.81 are less than the proposed values the fact that the other values are of a sufficient ratio as well as the fact that the current values are close to the proposed values indicate that the fit is not poor (Engel, Moosbrugger, 2003; Tanhan and Şentürk, 2011; Ercan, 2011). The standardized regression weights regarding the model (R²) are statistically significant and the E-S-QUAL fundamental factor variable has been explained mostly as “PRIVACY” (.77) and least with “SYS3” (.52) while the fundamental factor variable of E-RecS-QUAL has been explained mostly as “CONTACT2” (.87) and least with “COMPEN2” (.56). At the end of the confirmatory factor analysis repeated in line with modification recommendations verified a six factor model regarding the scale.

According to Figure 2, the chi-square value of the model was determined as significant (181.74, \(p<.000\)). Chi-square values are usually significant in large sample groups (Kavas, 2012). Accordingly it is evident that the \(\chi^2 / sd\) ratio (181.74 / 34 = 5.34) is greater than 5 and indicates an insufficient fit. At the same time the other goodness of fit indices obtained from the model show that the fit of the model is inadequate. Accordingly no affiliation is recommended in the correction indices of the first group. Recommendations regarding the definitions of the covariances among the errors in variables observed in the correction index of the second group have been presented. It has been determined that there is an affiliation between the errors observed in variables “VALUE1” ile “VALUE2”. A review of these items shows that in terms of semantics they are close so the error covariances for these items were added into the model and the analysis was repeated. The repeated analysis revealed that the \(\chi^2 / sd\) ratio (149.77 / 33 = 4.53) was greater than 4 and did not indicate an appropriate fit. However the goodness to fit indices point to an appropriate fitness level (RMSEA=.099, CFI=.98, NFI=.97, NNFI=.97, GFI=.92, AGFI=.87).

**Figure 2: Path Diagram of the Study Model (LISREL V 8.72 output)**

According to Figure 2, the chi-square value of the model was determined as significant (181.74, \(p<.000\)). Chi-square values are usually significant in large sample groups (Kavas, 2012). Accordingly it is evident that the \(\chi^2 / sd\) ratio (181.74 / 34 = 5.34) is greater than 5 and indicates an insufficient fit. At the same time the other goodness of fit indices obtained from the model show that the fit of the model is inadequate. Accordingly no affiliation is recommended in the correction indices of the first group. Recommendations regarding the definitions of the covariances among the errors in variables observed in the correction index of the second group have been presented. It has been determined that there is an affiliation between the errors observed in variables “VALUE1” ile “VALUE2”. A review of these items shows that in terms of semantics they are close so the error covariances for these items were added into the model and the analysis was repeated. The repeated analysis revealed that the \(\chi^2 / sd\) ratio (149.77 / 33 = 4.53) was greater than 4 and did not indicate an appropriate fit. However the goodness to fit indices point to an appropriate fitness level (RMSEA=.099, CFI=.98, NFI=.97, NNFI=.97, GFI=.92, AGFI=.87).
Table 3: Standard Values of Fitness Measures and Results for the Model

<table>
<thead>
<tr>
<th>Goodness-of-Fit Statistics</th>
<th>Good fitness</th>
<th>Acceptable fitness</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\chi^2/sd$</td>
<td>$0&lt;\chi^2/sd &lt;2$</td>
<td>$2&lt;\chi^2/sd &lt;5$</td>
<td>$149.77(sd=33, p&lt;0.000)$</td>
</tr>
<tr>
<td>RMSEA</td>
<td>$0&lt;RMSEA&lt;0.05$</td>
<td>$0.05&lt;RMSEA&lt;0.10$</td>
<td>$0.09$</td>
</tr>
<tr>
<td>NFI</td>
<td>$0.95&lt;\text{NFI}&lt;1$</td>
<td>$0.90&lt;\text{NFI}&lt;0.95$</td>
<td>$0.97$</td>
</tr>
<tr>
<td>NNFI</td>
<td>$0.97&lt;\text{NNFI}&lt;1$</td>
<td>$0.95&lt;\text{NNFI}&lt;0.97$</td>
<td>$0.97$</td>
</tr>
<tr>
<td>CFI</td>
<td>$0.97&lt;\text{CFI}&lt;1$</td>
<td>$0.95&lt;\text{CFI}&lt;0.97$</td>
<td>$0.98$</td>
</tr>
<tr>
<td>GFI</td>
<td>$0.95&lt;\text{GFI}&lt;1$</td>
<td>$0.90&lt;\text{GFI}&lt;0.95$</td>
<td>$0.92$</td>
</tr>
<tr>
<td>AGFI</td>
<td>$0.90&lt;\text{AGFI}&lt;1$</td>
<td>$0.85&lt;\text{AGFI}&lt;0.90$</td>
<td>$0.87$</td>
</tr>
</tbody>
</table>

AGFI (Adjusted Goodness-of-Fit-Index), CFI (Comparative Fit Index), GFI (Goodness-of-Fit Index), NFI (Normed Fit Index), NNFI (Nonnormed Fit Index), RMSEA (Root Mean Square Error of Approximation).

The model explains the affiliation of the determinants of E-S-QUAL and E-RecS-QUAL dimensions which are efficiency, system availability, fulfillment, privacy, responsiveness & compensation and contact between e-service quality and the affiliation between e-service quality and perceived value.

It was observed that the efficiency dimension coefficient had a positive impact on the e-service quality in the model (0.71) in Table 4. This shows that the efficiency dimension of the web site is one of the elements with an impact on the electronic service quality of online holiday shopping. For this reason the H1 hypothesis was accepted. It has determined that the system availability dimension had a positive impact on e-service quality with a coefficient of (0.63). In order to be able to determine the quality of electronic service in Turkey the usability of the web site must be easy and straightforward. Thus the H1 hypothesis was also accepted. It was determined that the dimension of fulfillment had a significant and positive impact on e-service quality (0.84). In other words as long as the travel agencies in Turkey fulfill the services they promise on the web sites it will reflect positively on e-service quality. Hypothesis H3 was accepted with this result. The privacy dimension in the model had a significant and positive impact on e-service quality (0.70). It was determined that the security and safety of the web sites in terms of the confidentiality of personal information and decreasing the risks of electronic purchasing were significant in determining e-service quality in Turkey. For this reason the H4 hypothesis was accepted. It was determined that the responsiveness & compensation dimension (0.73) had a significant and positive impact on e-service quality. This shows that satisfaction regarding electronic service quality is enhanced by the error correction and responsiveness of relevant travel agencies after holiday procurement from web sites in Turkey. The hypotheses H5-6 were accepted with this result. It was determined that the contact dimension during holiday procurement from a web site also had a significant and positive impact on e-service quality (0.72) in the model. For this reason travel agencies selling holidays through web sites should facilitate customers in reaching travel consultants through call centers as well as other communication channels. Thus hypothesis H7 was accepted. Finally the affiliation between the service quality of web sites selling holidays in Turkey and the perceived value of the users was measured. According to the model the more the service quality of the web sites selling holidays increased the more the perceived value of the consumers regarding the product increased in significance and positivity (0.82). This justified the acceptance of H8 hypothesis for the model.

Table 4: SEM results of the study model

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Standart. Loadings</th>
<th>t-value</th>
<th>R²</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1: Efficiency → E-Servqual</td>
<td>0.71</td>
<td>15.03*</td>
<td>0.51</td>
<td>Supported</td>
</tr>
<tr>
<td>H2: System Availability → E-Servqual</td>
<td>0.63</td>
<td>12.74*</td>
<td>0.40</td>
<td>Supported</td>
</tr>
<tr>
<td>H3: Fulfillment → E-Servqual</td>
<td>0.84</td>
<td>19.14*</td>
<td>0.71</td>
<td>Supported</td>
</tr>
<tr>
<td>H4: Privacy → E-Servqual</td>
<td>0.70</td>
<td>14.62*</td>
<td>0.49</td>
<td>Supported</td>
</tr>
<tr>
<td>H5-6: Responsiveness &amp; Compensation → E-Servqual</td>
<td>0.73</td>
<td>15.64*</td>
<td>0.54</td>
<td>Supported</td>
</tr>
<tr>
<td>H7: Contact → E-Servqual</td>
<td>0.72</td>
<td>15.26*</td>
<td>0.52</td>
<td>Supported</td>
</tr>
<tr>
<td>H8: E-Servqual → Perceived Value</td>
<td>0.86</td>
<td>13.95*</td>
<td>0.72</td>
<td>Supported</td>
</tr>
</tbody>
</table>

*p<0.05

4. Conclusions

E-service quality is a new developing area, which has strategic importance for businesses striving to address consumers in the electronic marketplace (Hapenciuc, Condratov, 2007). E-services are carried out through various electronic methods such as the internet, e-mail, mobile phone, personal computer, ATM, pos, credit card, smart card. This creates a difference with traditional service quality. Kambhar (2012) separates the current customer type into two groups which are the offline customer and e-customer.
No general consensus regarding the dimensions of e-service quality are available in literature (Chen, Hsu & Lee, 2013). The studies of Parasuraman, Zeithaml & Malhotra (2005) examined electronic service quality in two basic dimensions. These dimensions consist of e-core service quality (E-S-QUAL) and e-recovery service quality (E-RecS-QUAL) as two basic dimensions. Explanatory (EFA) and confirmative (CFA) factor analyses were applied on the E-S-QUAL and E-RecS-QUAL scales in this study which endeavored to determine the e-service quality dimensions of tourism services web sites used by domestic tourists to purchase tourism services online and to determine the impact of these dimensions on e-service quality and the impact of the e-service quality on the perceived value variable.

As a result of the factor analyses these fundamental dimensions were obtained (E-S-QUAL and E-RecS-QUAL). Furthermore the sub-dimensions of E-S-QUAL being efficiency, system availability, fulfillment and privacy were determined. However, instead of determining three dimensions for E-RecS-QUAL (responsiveness, compensation, contact) the analyses results determined two dimensions which are responsiveness & compensation and contact. Ho and Lee (2007) determined that the general dimensions of electronic service quality consisted of five dimensions which were information quality, security, website functionality, customer relationships and responsiveness. Sam & Tahir (2009) determined that service quality dimensions of the web sites of airline companies were usability, web design, info quality, trust, perceived risk and empathy. A study carried out by Jindal (2012) about the measurement of e-service quality in online tourism determined that the relevant five dimensions were website functionality, security, information quality, courtesy and responsiveness. Studies carried out by Wood and Heerden (2007) determined that the four dimensions comprising e-service quality were (effective communication, user interface and marketing, value-add and customisation).

It was determined that the fulfillment dimension which was determined as a sub-dimension for e-service quality had a positive and strong affiliation with e-service quality while the dimensions of efficiency, system availability, privacy, responsiveness & compensation and contact had a positive medium level affiliation. Furthermore, a positive strong affiliation was determined between the electronic service quality of holiday sites and consumer perceived value.

According to Wood and Heerden (2007) perceived value is defined as the consumer’s overall assessment of the utility of a product based on perception of what is received and what is given. The current study determined a significant and positive affiliation between e-service quality and perceived value. It was determined in the study that the perceived value of the product would increase in parallel with the increase in the e-service quality of tourism web sites. Yi (2000) believes that e-service quality is a vital determinant of customer perceived value (trans.Chinomona, Masinge & Sandada, 2014). Furthermore a positive and strong affiliation between e-service quality and perceived value in many studies in literature was determined which supports the findings of the current study (Chinomona, Masinge & Sandada, 2014; Bressolles and Durrieu, 2011; Chang and Wang, 2008).

According to the standardized regression weight regarding the study model fulfillment, responsiveness-compensation and contact dimensions of the e-service quality are dependent variables with statistical significance.

In conclusion, e-service quality has a significant contribution to the perceived value of domestic tourists regarding the products they buy online. For this reason enterprises which sell tourism products online should update their web sites continuously in line with the demands and expectations of customers and follow technology.

5. Recommendation

Most of the consumers shopping online in Turkey pay attention to the fulfillment, responsiveness-compensation and contact dimensions of the e-service quality of web sites. Companies selling tourism products on web sites should develop the functionality of their web sites and the fulfillment of undertakings and promises and access speed on an ongoing basis.

Due to the nature of tourism as a service sector there are some major differences in the structure of the product compared to the products of other industries. This is problematic for both marketing experts as well as consumers. Especially as the product is abstract in nature consumers feel the need to communicate with a responsible officer like in traditional consumption. For this reason marketing experts dealing with tourism products online over a web site need to provide a call center number, online chat programs such as msn or mail addresses for a fast response which consumers can use to reach sales staff.

Finally the dimension domestic tourists are mainly worried about is the privacy dimension. The Privacy dimension was also determined as a significant assessment dimension of web sites in the studies of Parasuraman, Zeithaml & Malhotra (2005). Tourism marketing experts should use high tech security precautions continuously during payment on their web sites and remind the consumers that this is what they are doing. Furthermore, they must notify and remind customers that all personal information is confidential as stipulated in the law.

6. Directions For Further Research

The E-S-QUAL and E-RecS-QUAL scales determined by the studies of Parasuraman, Zeithaml & Malhotra (2005) were used in the study to assess e-service quality. The sub-dimensions of these scales were determined and it was endeavored to measure the affiliation with overall e-service quality in the study. Furthermore, to conclude the study the affiliation between e-service quality and perceived value was measured. The studies regarding ecommerce in the area of tourism in Turkey are few in number. Subsequent studies should involve issues such as electronic customer satisfaction in the area of tourism and establishing customer loyalty in electronic commerce. Researchers could study customer satisfaction, service quality, perceived value, customer loyalty and satisfaction in online tourism marketing.
repeat purchase intention and customer loyalty of various web sites in Turkey with brand values and which market holidays through web sites (tatil.com, tatilsepeti.com gibi) and assist the marketing experts of these sites in their applicable strategies.

References


[63] e-Satisfaction and e-Loyalty in Online Tourism Portals, SAJEMS NS, 10 (3), 281-297.


