

# E-SERVICE QUALITY IN LOGISTICS SERVICES: A PRELIMINARY RESEARCH ON DETERMINING THE DIMENSIONS AND ATTRIBUTES OF UTIKAD MEMBERS' WEBSITES

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**Abstract --** *Using electronic tools, such as Internet, makes business more efficient and less cost. Web sites as distribution channels have many advantages for the companies, but competition urges them both to improve and evaluate their websites. Web Site Service Quality or so-called Electronic Service(e-service) Quality is an indispensable element when evaluating customer satisfaction for overall service quality. According to the literature, e-service quality has a great impact on customer satisfaction and loyalty, as well as customers' attitudes and behaviors eventually leading to positive financial outcomes. The purpose of the study is to identify e-service quality concept in service marketing literature, and then to determine basic dimensions and attributions of Turkish transport service providers' websites in the sample of UTIKAD (Association of International Forwarding and Logistics Service Providers) members, by using the content analysis method.*

**Keywords –** *E-Service Quality, Logistics Services, UTIKAD*

## INTRODUCTION

As Bezos (1999) indicates, in the offline world 30% of a company's resources are spent providing a good customer experience and 70% goes to marketing, however in online 70% should be devoted to create a great customer experience and 30% should be spent on 'shouting' about it. (Business Week, March 22, 1999, in Zeithaml et al. 2002). This speech indicates how an effective website influences customer's opinion. From this point of view, this paper is written to serve and to be beneficial for the literature.

Since progressing beyond the infancy stages of online marketing, Internet retailers have seen tremendous growth in sales in recent years (Rao et. al, 2011). The Internet cross over national borders, foreign consumers can go to Taiwanese shopping websites and make transactions. This is the path and goal of website operators attempting to internationalize (Fan and Tsai, 2010). In today's competitive business environment, companies should be aware of the importance of Internet. The Internet is accepted as a strategic weapon that can be helpful for continuity of their entities. Day by day the population of Internet users is increasing, so it effects the popularity of e-commerce through websites. Web sites are being widely deployed throughout industry, such as education, government, and other institutions. In practice, the importance of the use of web technology for electronic commerce activities have been discussed (Liu and Arnett, 2000). Oliveria et al. (2002) stated that e-service might be the key to have longer advantages in the digital times, and e-service quality is becoming even more critical for companies to retain and attract customers in the digital age. This situation is mostly related to the website of the companies. Internet offers a potential for logistics customers to reduce logistics costs and improves customer service simultaneously (Lynagh et al., 2001).

## Services in Logistics

Bowersox et al. (1968) suggest that the premise of trade is contingent on the supplier's ability to distribute goods physically to a customer. The fundamental economic utility of "place"—providing the right product at the right place at the right time in the right quantities and condition at the right cost—constitutes the work of logistics (Rao et. al, 2011). There are many definitions and descriptions of how logistics creates customer satisfaction. The most traditional ones are based on the creation of time and place utility (Perreault and Russ 1974, Mentzer et al. 2001). Researchers have begun to examine whether the service quality model can be used to measure logistics service and they have modified the original service quality model by developing logistics

attributes that fit into the previously customer-defined dimensions and identifying the additional gaps that could be applied to the logistics service context (Mentzer et al. 2001).

Whilst importance of logistics was begun to be understood as late as the end of 1990s, this concept has been started to be used before 1980s, however the comprehension of logistics approach in Turkey had delayed about 20 years (Meriç, 2005). In addition to this issue, logistics requirements, by nature, are very complex and integrated into one another. From this point of view, in order to maximize customer satisfaction, the transactions must be completed quickly and with no errors (Meriç, 2005).

In an increasingly becoming online business world, practitioners must check the list of the needed dimensions over their websites. Today's consumers may have a chance to order, or to visit anything via websites of any companies. Up to now, there are lots of practitioners have adopted various approaches to measure perceptions of efficacy of commercial websites (such as questioning consumers after their purchase or using professional experts to evaluate websites). By this study, it is aimed to identify the quality of websites of logistics companies by analyzing their websites through content analysis. There have been limited empirical studies that are related to logistics and their web-related issues in Turkey. This research is conducted to present the basic features of the websites of 367 total members of UTIKAD according to the dimensions that were identified and classified based on the literature that covers e-service quality and web site quality dimensions through previous studies most of which are given in the next section.

## **THE MAJOR MODELS FOR TRADITIONAL AND ELECTRONIC SERVICE QUALITY**

Services are defined as 'social act(s)' that take place in direct contact between the customer and representatives of their service company (Sower et al. 2001). Services generally can not be counted, measured, tested or thoroughly evaluated before consumption (Parasuraman, et al. 1985). Thanks to the 'quality movement' that started around early 1930s, quality is no longer a peripheral issue 'outsourced' to engineers, the 'techies', or the quality inspectors. Instead, quality has become part of the mainstream of business thinking, once managers at all levels have realized that they need to think of consumers' quality needs as much as they need to think about finance, logistics, and profitability (Boshoff, 2007). According to Fisk et al. (1993) the most researched area in services marketing to date is service quality. The interest in service quality parallels the focus on quality, total quality management, and satisfaction in business (Brady and Cronin, 2002). If measuring product quality is compared with measuring service quality, it can be seen that service quality is more difficult to understand and measure objectively since the characteristics include intangibility, heterogeneity, and inseparability of production and consumption of services. Service quality has been accepted an important issue for all providers, consumers, and scholars who have been acting in the marketplace. The vital traditional service quality models are named as SERVQUAL, SERVPERF, GRONROOS PERCEPTUAL, and CIT (Critical Incident Technique). SERVQUAL scale was developed by Parasuraman, Zeithaml and Berry in 1985. This scale assesses both the expectations of consumers' and the perceptions of providers' performance (McAlexander et al. 1994). For this model, expectations are formed as a result of consumer's previous experiences, word of mouth communications and personal needs (Mangold and Babakus, 1991). Based on SERVQUAL, other scholars named, Cronin and Taylor (1992) argued and decided that SERVQUAL was inadequate and they pointed out the importance of perceptions of consumers to measure the quality. They provided empirical evidence among four industries to corroborate the superiority of their 'performance only' instrument over disconfirmation based on SERVQUAL scale and they developed SERVPERF scale (Vanniarajan and Anbazhagan, 2007). The other service quality model was developed by Grönroos (1984). Deconstruction of service quality led him to conclude that its principal components were technical quality, functional quality and corporate image-the latter primary determined not only by conventional and emergent marketing techniques, but also by substantially dependent upon both expectations and perceptions regarding the first two. Another basic method to measure service quality is CIT (Critical Incident Technique), that was suggested by Flanagan (1954). CIT is a method that relies on a set of procedures to collect, content analyze, and classify of observations of human behavior (Gremler, 2004). While comparing e-service delivery versus service delivery, e-service delivery, which is based on interactive information flow between customers and service providers, is very different from service delivery, (Li and Suomi, 2007). From this point of view, Lemmink (2000) as well as Woodall (2001) suggested to the firms to focus on the innovations in services. They claimed 'although quality is still an important management topic in the service

industry, recent developments show that the management focus has shifted to innovations in services'. Since e-commerce has made prices more transparent, total delivered cost (not list price) has become an increasingly important factor in attracting patronage. Customers are becoming more sensitive to the bottom line (Yang et al. 2001). Even though low prices and less effort for possession of products and using for services by the consumers were the main advantages of success in sales through the Internet, service quality issues soon become pivotal (Parasuraman et al. 2005). For instance when consumers could not complete transactions, products are not delivered on time at all, e-mails are not answered, and desired information could not be accessed, the viability of web channels are jeopardized (Parasuraman et al. 2005). Zeithaml et al. (2002) defined e-service quality as 'the extent to which a web site facilitates efficient and effective shopping, purchasing, and delivery of products and services'. The most important and probably the most evident difference between traditional service quality and e-service quality is the replacement of interpersonal interaction with human-machine interaction (Bressolles and Nantel, 2004). E-service quality is defined broadly to encompass all phases of a customer's interactions with a web site, the extent to which a web site facilitates efficient and effective shopping, purchasing and delivery (Parasuraman et al. 2005). Alzola and Robaina (2010) mentioned only two major phases of the evaluation of e-services: phase before the sale and phase after the sale, and they point out importance of added value. Scientists emphasize different elements of quality evaluation of a website. For instance, Qin et al. (2008) used 6 dimensions for analysis of degree of consumer satisfaction using e-services: quality of service provided, customer service, management of processes, ease of use, the quality of information and design of the website. In the last few years several models developed to assess the quality offered by a website have appeared. In the following headline consists of a large summary for website quality models literature is provided.

## **WEBSITE QUALITY MODELS**

Website design refers to the interface channel and environment through which the user and the computer exchange information, to enable the user to view, search, and input information. In addition, the form that it takes can influence the user's observations and understanding of the system's functions (DeLone and McLean, 1992). Huizingh (2000) compared website sources and the merits of industry and scale based on how different types of companies use the Internet to structure websites. The research framework focused on website content and design. Website design was separated into the three characteristics, navigational structure, search function, and content protection, which were all objectively measured. However, Newman and Landay (2000) suggested that website design included navigation, information, and visual design. Navigation design is the complete and accurate planning of the website structure to enhance convenience for users and allows them to quickly find needed information. The goal of information design is to make the website content rich and clearly transmitted. Visual design is the use of visual components to make the screen more attractive to users and to make website information easier to understand. Liu and Arnett (2000) separated website design quality into six dimensions, information quality, educational function, entertainment value, system quality, system use, and service quality. Yoo and Donthu (2001) determined Sitequal scale. This scale composed of nine items distributed over 4 dimensions which are called ease of use, design, processing speed and security. Wolfenbarger and Gilly (2003) developed the EtailQ scale. This scale includes 14 items divided into four dimensions which are design, customer service, reliability/compliance with commitments and security/privacy. Barnes and Vidgen (2003) developed the model of Webqual which has 3 dimensions which consists of 22 items. These dimensions are quality of information, quality of interactivity/confidence and empathy' and the usability of the site and its design (Barnes and Vidgen, 2003). Cox and Dale (2001) set up a scale which consists of 6 dimensions of e-service quality with the comparison of the traditional dimensions of service quality, and they applied it to retail industry. These six dimensions are website appearance, communication, accessibility, credibility, understanding and availability. Another quality model is called as The Website Quality Model, which is suggested by Zhang and von Dran (2002). It is composed of a set of quality factors of website design, and divided into categories and features, where each feature guides the incorporation of customer's quality expectations into the design of a website. The categories include information content, cognitive outcomes, enjoyment, privacy, user empowerment, visual appearance, technical support, navigation, organization of information content, credibility and impartiality (Garcia et al. 2005). One another model is developed by Dawson et al. (2003), is called E-SEQUAL and it is an evaluation instrument that integrates CRM (Customer Relationship Management) and HCI (Human- Computer Interaction) strategies for the design and evaluation of e-commerce environments. Its objective is to capture the customer's

expectations of desired service quality and provide guidance for supporting the customer not only in his interaction with the website during the e-purchase stage, but across all touch points via which a customer may interact with the e-business during the service encounter. The model is composed by a set of requirements (heuristics and sub-heuristics) or solutions that either resolve or avoid specific obstacles that were observed to diminish a customer's perception of value (Garcia et al. 2005).

Increasing turnover of e-commerce in the world points out the significance of research of the e-commerce web sites evaluation, design solutions, quality assurance, consumer's behavior on the web, and the factors influencing behavior of consumers' (Davidavičienė and Tolvaišas, 2011). Table 1 demonstrates the major elements of e-commerce websites for quality evaluation.

TABLE 1  
Comparison of E-commerce Web Site Quality Evaluation Models

Models of... Dimension	Loiacono <i>et al.</i> 2007	Parasuraman, <i>et al.</i> 2007	Cao <i>et al.</i> 2005	Calero <i>et al.</i> 2005	Santos, 2003	Barnes and Vidgen, 2003	Mich <i>et al.</i> , 2003
Easy to use	+	+	+	+	+	+	+
Navigation	+	+	+	+	+	+	+
Security assurance	+	+	+	+	+	+	+
Help (real time)	+	+	+	+	+	+	+
Content	+	+	+	+	+	+	+
Design	+	+	+		+	+	+
Easy search	+	+	+	+	+		
Reliability	+		+	+	+	+	
Loading time		+	+		+		+
Image created	+					+	+
Innovativeness	+		+				+
Contact details		+					+
Language, Currency alternatives					+		+
Update frequency						+	+
Availability					+		+
Domain (easy to remember)							+

**Source:** V. Davidavičienė and J. Tolvaišas, (2011), 'Measuring quality of e-commerce web sites: case of Lithuania', *Economics and Management*, Vol. 16, pp.723-729.

The literature that is related to electronic commerce websites' key criterions consist of a plenty of studies (Loiacono et al. 2007, Parasuraman et al. 2007, Cao et al. 2005, Calero et al. 2005, Santos 2003, Barnes and Vidgen 2003, Mich et al. 2003). Table 1 shows that the chief dimensions for quality evaluation of each model. Santos (2003) mainly focused on the dimensions of virtual service quality, and she distinguished passive and active categories of elements of the website quality. Cao et al. (2005) analyzed the quality based on the principle of information systems and identified four essential elements: information, services, system quality and attractiveness. Calero et al. (2005) analysed the website quality from three different points of view: consumer, designer and owner. Parasuraman et al. (2007) and Zeithaml (2002) highlighted the importance of reaction to the consumer related problems. The analysis enabled to identify key elements for e-commerce websites quality evaluation. Evaluating the e-commerce website quality, following criterions should be included: 'simplicity of product search', 'ordering', 'payment process', 'security provisions', 'adequacy of delivery types for target audience', 'order status tracking capabilities', 'product return process', and 'loyalty programs'.

## METHODOLOGY

According to the literature there are some empirical studies about e-service quality in general (Liu and Arnett, 2000; Davidavičienė and Tolvaišas 2011; Fan and Tsai, 2010; Li et al. 2009; Zeithaml et al. 2002; Liu and Arnett, 2001; Santos, 2003) and a few in e-logistics service quality (Rao et al. 2011; Burmaoglu et al. 2010; Cheng, 2011). In this study, because of the time and cost limitations, content analysis method is adopted to find out the dimensions and attributions of the websites. Content analysis involves systematic analysis as well as observation to identify the specific information content and other characteristics of the messages (e.g. advertisements, newspaper articles, television programs, letters and the like) (Zikmund et al. 2008:246-247). Primarily the objective of content analysis is to 'reduce' the data, to simplify by summarizing and structuring the data according to rules from existing theory. In content analysis, even though a researcher may be working with qualitative data, content analysis should be classified as a quantitative technique based upon classifying and counting (Malhotra and Birks, 2007:251). In the literature there are some studies to assess the web site dimensions and attributes with content analysis (Law and Hsu, 2005; Elliott and Meng, 2011; Giannopoulos and Mavragani, 2011, Orel and Yasa, 2011). By utilizing these studies and observing sample websites, it is thought that four dimensions can be used to define the attributes of the websites. They are: *contact information, corporate information, customer service and website features*.

The universe of the research is the transport service providers in Turkey. The sample is UTİKAD members. UTİKAD was founded in 1986. Being an association, it has approximately 350 members which are competent forwarding and logistics companies. Amongst the member forwarders, the companies are specialized putting emphasis in certain modes of transportation, namely road, air, ocean freight, railway and increasingly in all modes of transportation, the so called multimodal transportation. UTİKAD is an active member of International Federation of Freight Forwarders Association (FIATA) and European Union Forwarding and Logistics Organization (CLECAT) (<http://www.utikad.org.tr/eng/default.asp>, Last access: 03/08/2012). By June 2012, there are 367 members of UTİKAD (<http://www.utikad.org.tr/tumuyeler.asp>, Last access: 18/06/2012). To access the websites of the members, the domain parts of the e-mails of the members that are given in UTİKAD website is used (<http://www.utikad.org.tr/tumuyeler.asp>, Last access: 18/06/2012). If there is no e-mail address or no working domain, 'Google' and 'Bing' search engines are used to find out the address.

## LIMITATIONS

The data on this study was collected between 18 June 2012 and 29 June 2012, so the results represent the sample, mainly between those two dates. Specifically, many websites might have been changed during that timeline, or some companies without websites might be online. Additionally any company which is not an UTİKAD member, or does not have a working website, is out of the scope of the research. Based on this fact, though UTİKAD had 367 members on 18<sup>th</sup> of June 2012, only 292 of them had a working website on that date (Table 3). So the results can not be represented to all transport service providers in Turkey. Lastly, in this study, it is aimed to assess the websites of the companies whether they have the attributions and dimensions, it is not aimed to assess the quality or degree of the attributions and dimensions.

## FINDINGS

The reliability analysis was conducted to determine internal consistency among variables. Nunnally (1978) suggests that Cronbach's Alpha value of 0.60 and above is sufficient for early stage or exploratory research. According to the information given below, our reliability score is higher than this score (Table 2). The percentages of each item are shown at the following Tables of 3 to Table 8.

TABLE 2  
The Score for Reliability Analysis

Cronbach's alpha	N of Items
.667	32

As Nunnally (1978) indicates, 0.60 and above Cronbach's alpha value of is sufficient for early stage or exploratory research. So the reliability analysis result seems sufficient.

The website availability of the sample is given below in Table 3.

TABLE 3  
Website Availability of the Sample (n=367)

Is There a Website?	Frequency	Percentage
Yes	292	79.56
No	42	11.44
Not working	27	7.36
Repeated	6	1.63
TOTAL	367	100.00

As shown in Table 3, there are only 292(79.56%) members have a working website. 42(11.44%) of them have no website, 27(7.36%) of the members' website are not working, and 6(1.63%) of the members' website are repeated more than once in the list.

TABLE 4  
Headquarters of the Sample Companies (n=292)

City	Frequency	Percentage
İstanbul	249	85.30
İzmir	18	6.20
Mersin	11	3.80
Ankara	6	2.10
Hatay	2	0.70
Kocaeli	2	0.70
Denizli	1	0.30
Düzce	1	0.30
Edirne	1	0.30
Bursa	1	0.30
TOTAL	292	100.00

As shown in Table 4, most of the companies in the sample (85.30%) located in İstanbul. The location of other companies can be seen at the Table 4. The companies which have not a working website are out of scope.

TABLE 5  
Contact Information Item Scores (n=292)

No.	Items	Yes	%
1	Telephone number	287	98.29
2	Address	278	95.21
3	Location map	111	38.01
4	E-mail	260	89.04
5	Fax number	269	92.12
6	Feedback form	156	53.42
7	Subscribe to newsletters	45	15.41
8	Social media link	39	13.36

As shown in Table 5, basic contact information scores are comparatively high in the sample. Just only, items such as *feedback form* (53.42%) *location map* (38.01%), *subscribe to newsletters* (15.41%) and *social media*

*link* (13.36%), which is a link of corporate webpage in various social media providers (e.g. facebook , twitter, google+, linkedin, myspace), seem low.

TABLE 6  
Corporate Information Item Scores (n=292)

No.	Items	Yes	%
9	About us	269	92.12
10	Photograph gallery	45	15.41
11	Recent news	149	51.03
12	Services	262	89.73
13	References	48	16.44
14	Human resources and career	141	48.29
15	Vision	89	30.48
16	Mission	97	33.22
17	Values	36	12.33
18	Quality policy	47	16.10
19	Ethical issues	5	1.71

As shown in Table 6, items such as *About us* (92.12%), *Services* (89.73%), which are the company's general products and services for the customers, seem very high, whereas items such as *Ethical issues* (1.71%), *Values* (12.33%), *References*, which can be defined simply as the company's previous well-known customers or projects (16.44%), seem very low.

TABLE 7  
Customer Service Item Scores (n=292)

No.	Items	Yes	%
20	Online freight offer	48	16.44
21	Customer sign in	71	24.32
22	Online freight tracking	69	23.63
23	Live support	12	4.11
24	Mobile application link	8	2.74

As shown in Table 7, the scores of the items are; *Online freight offer* (16.44%), which enables customers to find out or apply about the price of their freight, *Customer sign in* (24.32%), which enables customer to see, change and process of their basic information, *Online freight tracking* (23.63%), which enables customers to see where their freight is, *Live support* (4.11%), which enables the customer to contact with the company by a call center, or a chat program, *Mobile application link* (2.74%), which is a communications standard for allowing handheld devices to exchange data and applications directly with centralized applications in the same way ([http://www.mobileinfo.com/application\\_servers.htm](http://www.mobileinfo.com/application_servers.htm), Last access: 25/06/2012).

TABLE 8  
Website Features Item Scores (n=292)

No.	Items	Yes	%
25	Search engine	62	21.23
26	Site map	59	20.21
27	Website provider info. <sup>1</sup>	96	32.88
28	Last update	4	1.37
29	Own URL <sup>2</sup>	245	83.90
30	Multiple language	203	69.52
31	Existence of different graphics <sup>3</sup>	91	31.16
32	Turkish language	233	79.79

As shown in Table 8, some attributions in the websites seem comparatively high [e.g. Own URL (83.90%), Turkish language (79.79%), Multiple language (69.52%)] but some attributions seem quite low [e.g. Last update (1.37%), Site map (20.21%), Search engine (21.33%), Existence of different graphics (31.16%), Website provider information (32.88%)].

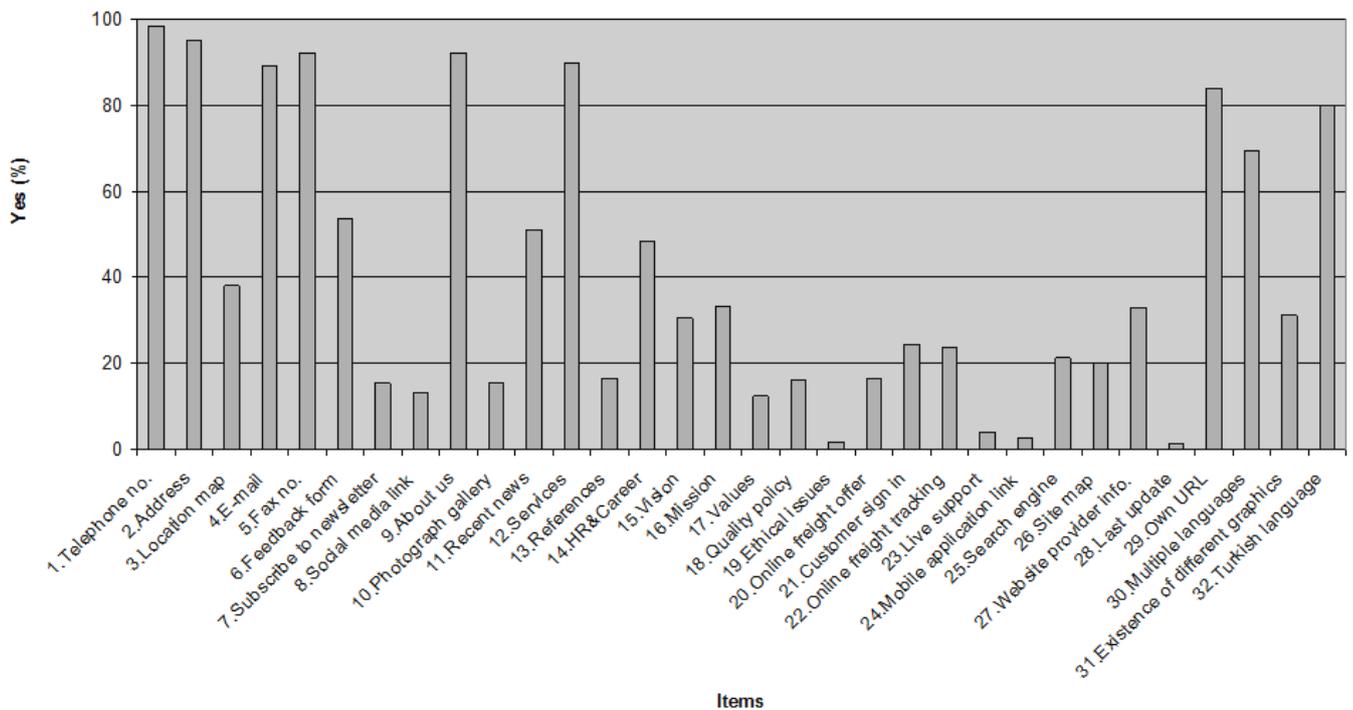


FIGURE 1  
Percentage Scores of All Items (n=292)

Percentage scores of all items can be seen in Figure 1. The basic contact information (*telephone no., address, fax*), *about us, services, own URL* and *Turkish language* seem very high, but some items such as *social media link, values, ethical issues, live support, last update* seem very low.

<sup>1</sup> This item indicates whether the website creator company's name or logo is shown in the bottom of the website.

<sup>2</sup> The item Own URL (Uniform Resource Locator) indicates the similarity between the company name and website address. For example if the company name is 'example logistics' the website should be as [www.examplelogistics.com](http://www.examplelogistics.com), or [www.example.com](http://www.example.com), otherwise there is no own URL.

<sup>3</sup> This item indicates different graphics (e.g. moving and/or changing pictures or symbols) that are used to attract visitors.

## CONCLUSION

According to the definition of Sower et al. (2001), services are known as social(s) acts that take place in direct contact between service presenters and customers. Their main attribute is that they can not be assigned before consumption. Due to this reason, measuring their quality is more difficult than products. For defining service quality there are so many definitions indicated in the literature as well. In today's world, consumers have many alternatives to choose their best. A plenty of logistics firms are waiting for meeting their wishes and needs. They also develop their facilities according to needs of their consumers, both offline and online. Based on the research indicated in the literature part, Meriç (2005) presented that importance of logistics for Turkey became important nearly 1990s, however in the west, its (logistics) importance was recognized before 1980s. Today's current technological developments influence this sector's vitality much more. The transactions between parties must be completed quickly and with no errors in order to maximize customers' satisfaction and their loyalty. Internet has a vital role in these transactions. It helps to make company's marketing efforts more effectively, widely and with less cost. It is essential for companies to create an informative and problem solving websites that can meet their costumers' needs. In today's very competitive business world, it is not sufficient just to have a website for the customers. In addition to this, company has to build a website which contains various contents that helps customers and other shareholders to find out the information they need easily. Website visual appearance is vital as well. Previous research present that the features of the website must guide the incorporation of customer's quality expectations and website design together (Liu and Arnett, 2000; Wolfinbarger and Gilly, 2003; Barnes and Vidgen, 2003; Cox and Dale, 2001; Garcia et al. 2005; Dawson et al. 2003; Dran, 2002). In this study, it is tried to find out the basic dimensions and attributions of the logistics companies in the sample of UTIKAD members. Depending on the results, it would be appropriate to make some implications. The consequences of the paper are nearly based upon same characteristics related to literature of website quality.

It seems that most of the companies see their websites as an information medium rather than interaction. Most of the data that exists on the websites are only information. Visitors have little opportunity for interaction or to feedback. For instance, about 90% of all companies have information about their telephone and fax number on their website, but only 13.36% of them have a social media link. Subscribing to newsletter is a powerful tool that helps to create long term customer loyalty, but only 15.41% of them have this tool.

In the corporate information dimension, it can be said that almost all of the companies have some information about the company, meanwhile when visitor wants to see company's values, missions, visions, ethical concerns or quality policy, the information amount gets low. For instance only 5 of all 292 companies have information about ethical issues on their website. Similarly 36 of them mention about their values and 47 of them mentions about their quality policy. In today's environmental sensitive world, customers of logistics services consider environmental issues more than before. For example, according to a recent research, satisfying customer requirements is the second significant benefit (%62) of the reason of companies considering green supply chain (Insight, 2008 in McKinnon:2010:19).

Mobile Internet usage is getting more and more common all around the world. Mobile applications, which are designed to run on smartphones, tablet computers and other mobile devices, are vital element of mobile marketing. According to a research conducted in the U.S. in May 2012, mobile application usage was actually higher than web browsing; 51.1% vs. 49.8% respectively (Perez, 2012). In another study which was conducted in January 2012, 63% of all Turkish Internet users older than 15 years old. are using mobile devices to be online (Interpromedya, 2012). Those results show that Internet is going mobile, on the other hand, unfortunately only 8 of 292 (2.73%) websites have a *mobile application link*. Similarly only 12 websites (4.10%) have *live support*. This means customers can not interact with other 280 websites, outside business hours. *Online freight tracking* (16.44%) and *customer sign in* (24.31%) items seem comparatively high.

In website features dimension, companies have very low item scores, such as *last update* which enables visitors to realize how actual the information on the website is. Only 4 of 292 (1.36%) companies have last update info. In addition, only 233 companies (79.79%) have *Turkish website*. This means 59 companies (20.20%) have no Turkish language online. 32.88% of all companies specify the *website provider info*, so that other companies which want to have similar website design can contact with them. *Search engine* and *sitemap*

features are especially important for new customers or customers from another industry. But only 21.31% and 20.91% of the sample have these features.

In conclusion, according to the results of the data, it is hard to say that the majority of the sample have sufficient items for a website. Companies should make their websites more interactive and simpler. By saying interactivity, it is indicated that they should create more channels to contact with their customers. Social media, mobile marketing, online chat are some of these examples. Many of the websites don't seem to be so simple. For example some of them give the e-mail address information in other than the contact heading. In some examples, it is not easy to find out the specific info, besides pictures and/or texts in some websites don't seem to fit on the page thus it is hard to see and/or read.

In further research, website dimensions and/or service quality from the customer side can be explored with validated scales with wider samples. UTIKAD members can fit in only one category: logistics service providers; on the other hand in another categories or industries, comparison of website dimensions with these categories may also be done.

## REFERENCES

- [1] Alzola, L. M.; Robaina, V. P. (2010). "The Impact of pre-sale and post-sale factors on online purchasing satisfaction: a survey", *International Journal of Quality and Reliability Management*, Vol. 27, No.2, pp. 121–137.
- [2] Barnes, S. J.; Vidgen, R. (2003). "Measuring website quality improvements: a case Study of the forum on strategic management knowledge exchange", *Industrial Management and Data System*, Vol. 103, No.5, pp. 297–309.
- [3] Boshoff, C., (2007), "A psychometric assessment of E-S-Qual: a scale to measure electronic service quality", *Journal of Electronic Commerce Research*, Vol. 8, No.1, pp. 101–114.
- [4] Bowersox, D.J., Smykay, E.W., and LaLonde, B.J. 1968. "Physical Distribution Management: Logistics Problems of the Firm". New York: MacMillan.
- [5] Brady, M. K., Cronin, J. J. Brand, R. R (2002). "Performance-only measurement of service quality: a replication and extension", *Journal of Business Research*, Vol. 55, No. 1, pp. 17–31.
- [6] Bressolles, G. and Nantel (2004), "Electronic service quality: a comparison of three measurement scales", *Proceedings of the 33th EMAC Conference*, Murcia, Spain.
- [7] Burmaoglu, S; Bali, O; Kazancoglu, Y. (2010), "Performance evaluation of transportation websites by using fuzzy AHP", *International Logistics and Supply Chain Congress*, Istanbul, Turkey.
- [8] Cao, M.; Zhang, Q.; Seydel, J. (2005). "B2C e-commerce web site quality: an empirical examination", *Industrial Management and Data Systems*, Vol. 105, No. 5, pp. 645–661.
- [9] Calero, C.; Ruiz, J.; Piattini, M. (2005). "Classifying web metrics using the web quality model", *Online Information Review*, Vol. 29, No. 3, pp. 227–248.
- [10] Cheng, Y.H. (2011), "Evaluating web site service quality in public transport: evidence from Taiwan High Speed Rail", *Transportation Research, Part C*, Vol. 19, pp.957-974.
- [11] Cox, J. and Dale, B.G. (2001). "Service quality and ecommerce: An exploratory analysis". *Managing Service Quality*, Vol. 11, No. 2, 121-131.
- [12] Cronin JJ, Taylor SA. (1992). "Measuring service quality: a reexamination and extension", *Journal of Marketing*, Vol.56, pp. 55– 68 (August).
- [13] Davidavičienė, V. and Tolvaišas, J. (2011), "Measuring quality of e-commerce web sites: case of Lithuania", *Economics and Management*, Vol. 16, pp.723-729.
- [14] Dawson, M.E., Skinner, S., Zeitlin, A, (2003), "Rules of engagement: proceed with caution when integrating multimedia learning tools into existing course formats", *Electronic Journal of Science Education*, Vol. 7, No. 4, June.
- [15] DeLone, W.H., and McLean, E.R. (1992), "Information systems success: the quest for the dependent variable" *Information Systems Research*, Vol.3, No. 1, pp. 60–95.
- [16] Elliott, K.M. ve Meng, J.G. (2011), "Hotel website information: how satisfied are customers with what hotels provide?", *International Journal of Business Strategy*, Vol. 11, No. 1, pp. 120–129.

- [17] Fan, W. S., Tsai, M.C., (2010), "Factors driving website success – the key role of Internet customization and the influence of website design quality and Internet marketing strategy", *Total Quality Management* Vol. 21, No. 11, November 2010, pp. 1141–1159.
- [18] Fisk RF, Brown SW, Bitner MJ. "Teaching the evolution of services marketing literature". *Journal of Retailing* 1993, Vol. 69, No. 1, pp. 61–103.
- [19] Flanagan, J.C. (1954). "The critical incident technique", *Psychological Bulletin*, Vol. 51 No. 4, pp. 327-358.
- [20] Garcia, M.V., Aguilar, L.J., Enriquez, J.M.L., (2005), "A Study on the applicability of online service quality models in testing e-loyalty", IADIS International Conference on WWW/Internet, Available at: <http://www.iadisportal.org/digital-library/mdownload/a-study-on-the-applicability-of-online-service-quality-models-in-testing-e-loyalty>, Last access: 03/08/2012.
- [21] Giannopoulos, A.A. ve Mavragani, E.P. (2011), "Travelling through the web: a first step toward a comparative analysis of European National Tourism Websites", *Journal of Hospitality Marketing and Management*, Vol.20, pp. 718–739.
- [22] Gremler, D.D. (2004). "The Critical Incident Technique in Service Research", *Journal of Service Research*, Vol 7, No.1, pp.65–89.
- [23] Grönroos, C., (1984). "A service quality model and its marketing implications", *European Journal of Marketing*, Vol. 18, No. 4, pp.36–44
- [24] Huizingh, E. (2000). "The content and design of web sites: an empirical study", *Information and Management*, Vol. 37, No. 3, pp. 123–134.
- [25] Interpromedya, (2012), Tüketici Trend Araştırması, Available at: <http://www.haberler.com/63-Internet-e-cep-telefonlarindan-baglaniyor-3586879-haberi/>, Last access: 03/08/2012.
- [26] Law, R. ve Hsu, C.H.C. (2005), "Customers' perception of the importance of hotel web site dimensions and attributes", *International of Contemporary Hospitality Management*, Vol. 17, No. 6, pp. 493-503.
- [27] Lemmink, J. (2000), EIASM: Workshop on management and innovation of services (online), Available at <http://www.fdewb.unimass.nl/marketing/workshop>. Last access: 10/07/2012.
- [28] Li, H., Suomi, R., (2007), "Evaluating electronic service quality: a transaction Process Based Evaluation Model, The European Conference on Information Management and Evaluation, Montpellier, France, 20-21 September, pp. 331–340, Available at: <http://195.130.87.21:8080/dspace/bitstream/123456789/882/1/Evaluating%20electronic%20service%20quality%20a%20transaction%20process%20.pdf>, Last access: 03/08/2012.
- [29] Li, H., Yong, L. and Reima, S. (2009), "Measurement of e-service quality: an empirical study on online travel service", 17<sup>th</sup> European Conference on Information Systems, Verona, Italy, Available at: <http://is2.lse.ac.uk/asp/aspecis/20090144.pdf>, Last access: 03/08/2012.
- [30] Liu, C. and K.P., Arnett, 2000. "Exploring the factors associated with Web site success in the context of electronic commerce", *Information and Management*, Vol. 38, pp.23–33.
- [31] Loiacono, E. T.; Watson, R. T.; Goodhue, D. L. (2007). "WebQual: an instrument for consumer evaluation of web sites", *International Journal of Electronic Commerce*, Vol. 11, No. 3, pp. 51–87.
- [32] Lynagh, P., M., Murphy, P.R., Poist, R.F., Grazer, W. F., (2001), "Web-based informational practices of logistics service providers: an empirical assessment", *Transportation Journal*, Vol.40, No.4, pp. 34-45.
- [33] McKinnon, A. (2010), "Environmental sustainability: a new priority for logistics managers", *Green Logistics: Improving the Environmental Sustainability of Logistics*, ed.:McKinnon, A., Cullinane, S., Browne, M. ve Whiteing, A., Kogan Page Limited.
- [34] Malhotra, N.K. and Birks, D.F. (2007). "Marketing Research: An Applied Approach", (3<sup>th</sup> Edition). Pearson Education Limited.
- [35] Mangold, W. Glynn, Emin Babakus, (1991) "Service quality: the front-stage vs. the back-stage perspective", *Journal of Services Marketing*, Vol. 5, No. 4, pp. 59–70.
- [36] McAlexander J.H., Kaldenberg D.O., Koenig H.F. "Service quality measurement." *Journal of Health Care Marketing* 1994, Vol. 14, No. 3, pp.34–39.
- [37] Mentzer, J.T., Flint, D.J., and Hult, G.T.M. 2001. "Logistics service quality as a segment-customized process," *Journal of Marketing*, Vol. 65, No. 3, pp. 82–104.
- [38] Meriç, M. (2005), "Lojistik Hizmet Kalitesinin Tüketici Tarafından Algılanması", Dumlupınar Üniversitesi Sosyal Bilimler Enstitüsü, Yayınlanmamış Yüksek Lisans Tezi.
- [39] Mich, L.; Franch, M.; Cilione, G. (2003). "The 2QCV3Q quality model for the analysis of web site requirements", *Journal of Web Engineering*, Vol. 2, No. 1, pp. 105–127.

- [40] Newman, M., and Landay, J. (2000). Sitemaps, storyboards, and specifications: A sketch of web site design practice. ACM, pp. 263–274, Available at: <http://mwnewman.people.si.umich.edu/pubs/dis2000-iwd.pdf>, Last access: 05/08/2012.
- [41] Nunnally, J.C. (1978), “Psychometric Theory”. 2nd ed. New York: McGraw-Hill.
- [42] Oliveria, P., Roth, A.V. and Gilland W. (2002). “Achieving competitive capabilities in e-services”, Technology Forecasting and Social Change, Vol. 69, pp. 721-739.
- [43] Orel, F.D. and Yasa, E. (2012). “Importance of medical tourism: a preliminary research on a class hospitals websites in Turkey”, 11<sup>th</sup> International Marketing Trends Conference, 21 January, Venezia, Italy.
- [44] Parasuraman, A.; Zeithaml, V. A.; Malhotra, A. (2007). “E-S-QUAL: a Multiple-item Scale for Assessing Electronic Service Quality”. Journal of Service Research, Vol. 7, No. 3, pp. 13–33.
- [45] Parasuraman, A., Zeithaml, V. A. and Berry, L. L. (1985). “A conceptual model of service quality and its implications for future research”, Journal of Marketing, Vol. 49(Fall), pp. 41–50.
- [46] Parasuraman, A., Zeithaml, V.A., and Malhotra, A. (2005). “ESQUAL: A multipleitem scale for assessing electronic service quality”, Journal of Service Research, Vol. 7, No. 3, pp. 213–234.
- [47] Perez, S. (2012), ComScore: In U.S. Mobile Market, Samsung, Android Top The Charts; Apps Overtake Web Browsing. Available at: <http://techcrunch.com/2012/07/02/comscore-in-u-s-mobile-market-samsung-android-top-the-charts-apps-overtake-web-browsing/>, Last access: 05/08/2012.
- [48] Perrault, William D. and Frederick Russ (1974), “Physical distribution service: a neglected aspect of marketing management”, MSU Business Topics, Vol.22, No.3, pp.37–45.
- [49] Rao, S., Goldsby, T.J., Griffis, E.S., Iyengar, D., (2011), “Electronic logistics service quality (e-LSQ): its impact on the customer’s purchase satisfaction and retention”, Journal of Business Logistics, 2011, Vol. 32, No. 2, pp.167–179.
- [50] Sower, V., Duffy, J., Kilbourne, W., Kohers, G, Jones, P. (2001). “The dimensions of service quality for hospitals: development and use of the KQCAH scale”, Health Care Management Review, Spring 2001, Vol. 26, No. 2, pp. 47–59.
- [51] Santos, J. (2003). “E-service quality a model of virtual service dimensions”. Managing Service Quality, Vol. 13, No. 3, pp. 233–247.
- [52] Qin, S.; Zhao, L.; Yong-tao S.; Ting Ch. (2008). “Conceptualizing consumers’ perceptions of e-commerce quality”. International Journal of Retail and Distribution Management, Vol. 36, No.5, pp.360–374.
- [53] Vasnriarajan, T., Anbazhagan, B. (2007). “Service performance analysis in retail banking”, International Marketing Conference on Marketing and Society, 8-10 April 2007, pp. 725–736.
- [54] Wolfinbarger, M.F. and Gilly, M.C. (2003). “ETAILQ: dimensionalizing, measuring and predicting etail quality”, Journal of Retailing, Vol. 79, No. 3, pp. 183–198.
- [55] Woodall, Tony, (2001), ‘Six sigma and service quality: Christian Grönroos revisited’, Journal of Marketing Management, Vol. 17, pp. 597–607.
- [56] Yang, Z., R. T. Peterson, and L. Huang. (2001), “Taking the Pulse of Internet Pharmacies”, Marketing Health Services, Summer, 5-10.
- [57] Yoo, B. and Donthu, N. (2001). “Developing a scale to measure perceived quality of an Internet shopping site (SITEQUAL)”, Quarterly Journal of Electronic Commerce, Vol. 2, No. 1, pp. 31–46.
- [58] Zeithaml, V. A., Parasuraman, A., and Malhotra, A. (2002). “Service quality delivery through web sites: a critical review of extant knowledge”, Journal of the Academy of Marketing Science, Vol. 30, No. 4, pp. 362-75.
- [59] Zeithaml, A. (2002). “Service excellence in electronic channels”. Managing Service Quality, Vol. 12, No. 3, pp. 134–138.
- [60] Zeithaml et al. (2002). “Service quality delivery through web Sites: a critical review of extant knowledge”, Journal of the Academy of Marketing Science, Vol. 30, No. 4, pp. 358–371.
- [61] Zhang, P., Von Dran, G.M.(2002), “Satisfiers and dissatisfiers: a two-factor model for website design and evaluation”, Journal of The American Society For Information Science. Vol. 51, No. 14, pp. 1253-1268.
- [62] Zikmund, W.G., Babin, B.J., Carr, J.C., Griffin, M. (2009), “Business Research Methods”, Cengage Learning.
- [63] [http://www.mobileinfo.com/application\\_servers.htm](http://www.mobileinfo.com/application_servers.htm), Last access: 25/06/2012.
- [64] <http://www.utikad.org.tr/eng/default.asp>, Last access: 03/08/2012.
- [65] <http://www.utikad.org.tr/tumuyeler.asp>, Last access: 18/06/2012