



# **SERVICE QUALITY OF UNIVERSITY LIBRARY: A SURVEY AMONGST STUDENTS AT OSMANGAZI UNIVERSITY AND ANADOLU UNIVERSITY**

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Bu makale 15.05.2006 tarihinde alınmış hakem kontrolü sonrasında 31.01.2007 tarihinde düzeltilerek yayını uygun bulunmuştur.

## **Abstract**

Student satisfaction is an important measure of service quality in libraries. Students' perceptions about libraries seem to have been largely ignored by library management in developing countries. The assessment of service quality provides an important feedback for libraries to assess and improve its service to its users. The aim of this study is to develop a reliable and valid instrument measure student satisfaction in Osmangazi University Library and Anadolu University Library. A questionnaire to measure the service quality of university libraries was used and a total of 400 students at two university libraries were interviewed. Factor analysis was utilized to determine the factor structure. The instrument of the student satisfaction developed in this study provides insights to the researches who study the improvement of student satisfaction with service quality of university libraries and decision markers.

**Keywords::** Library, Satisfaction, Servqual, Service Quality, Perception, Expectation, Factor Analysis, Regression Analysis

**Jel Classification:** C420, C490

## **Özet**

Öğrenci memnuniyeti kütüphanelerdeki servis kalitesinin ölçümünde önemlidir. Öğrencilerin kütüphanelerden beklentileri gelişen ülkelerde kütüphane yönetimi tarafından büyük ölçüde göz ardı edilmiş gibi görünmektedir. Servis kalitesinin değerlendirilmesi kütüphane kullanıcıları için kütüphane servisini geliştirmek ve değerlendirmek için kütüphanelere önemli bir bilgi sağlar. Bu çalışmanın amacı Osmangazi Üniversitesi kütüphanesi ile Anadolu Üniversitesi kütüphanesindeki öğrenci memnuniyetini ölçen geçerli ve güvenilir bir ölçme aracı geliştirmektir. Üniversite kütüphanelerinin servis kalitesini ölçmek için bir anket kullanılmıştır. İki üniversite kütüphanesinde toplam 400 öğrenci ile görüşülmüştür. Faktör analizi uygulanmıştır. Bu çalışmada geliştirilen öğrenci memnuniyetini ölçme aracı karar vericilere ve üniversite kütüphanelerinin servis kalitesini geliştirmeye çalışan araştırmacılara ışık tutar.

**Anahtar Kelimeler:** Kütüphane, Memnuniyet, Servqual, Servis Kalitesi, Algı, Beklenti, Faktör Analizi, Regresyon Analizi

**Jel Sınıflaması:** C420, C490

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## **Introduction**

The concepts of satisfaction and quality are often used together, and sometimes interchangeably. Few researchers have identified the particular relationship between the two concepts, however a number of general statements have been made. According to (Oliver, 1981:42) "... satisfaction is the emotional reaction following a disconfirmation experience which acts on the base attitude level and is consumption-specific". Perceived quality, on the other hand, is defined and contrasted to satisfaction by (Parasuraman, Zeithaml and Berry, 1988:16) as "... a global judgment, or attitude, relating to the superiority of the service, whereas satisfaction is related to a specific transaction".

Thus, these two concepts are related in that incidents of satisfaction, over time, result in perceptions of quality (Hebert, 1993:21). This relationship, however, has not been widely tested empirically. In particular, academics and practitioners alike have exhibited considerable interest in the issues that surround the measurement of service quality and the conceptualization of relationship between service quality and consumer satisfaction (Brady, Cronin and Brand, 2002:17).

Satisfaction in library users has been a concern of researchers and practitioners alike in the field of library and information sciences (Hiller, 2001:606; Nitecki and Franklin, 1999:485; Allen, Ward, Wary and Lopez, 2003:138; Martensen and Granholdt, 2003:140; Calvert, 1998:296; Harwood and Bydder, 1998:161; Shi, Holahan, and Jurkat, 2004:122). Although user satisfaction is not an unfamiliar topic in library science, there are not yet wide researchers related to library user satisfaction that is a predictor of service quality and performance measure of library in Turkey.

The primary purpose of this study is to diagnose accurately service shortfalls in the libraries, through assessing and comparing the perceptions of the library users in Eskişehir. The model found in regression analysis enhances understanding of the users' expectations and it roles in improving service quality in university libraries (Osmangazi University Library and Anadolu University Library).



## **Research Method**

### **Questionnaire Design**

A modified version of SERVQUAL was used in this study (Hebert, 1993:144; Landrum and Prybutok, 2004:631). Surveys have been used as a tool to assess service quality and users satisfaction. The questionnaire was made up of four consecutive parts. Part 1 was designed to assess student's expectations and quality of library environment, quality of library service, information quality and system quality. Part 2 assessed usefulness. Part 3 collected students' observation about the library. Part 1, part 2 and part 3 was used a seven- point Likert scale with "1" being "strongly disagree" and "7" being "strongly agree". Part 4 contained a few more questions concerning student's use of the library.

A pilot test was conducted to assess the reliability of the attributes and to ensure that the wording, format, length and sequencing of questions.

The survey was undertaken with the student populations at Osmangazi University Library and Anadolu University Library. Reliability analysis was also employed to test the internal consistency of questionnaire. Cronbach's alpha coefficient was calculated as 0.9463.

Results have revealed significant variation between user concerning library satisfaction, use and importance.

## **Results**

### **Characteristics of Sample**

The data set used for this study comes from a survey conducted. The study sample was selected randomly. The students who were discharged from these universities during 1-15 May 2005 were interviewed before they left the library. Students who were not willing to answer to questionnaire were not interviewed. A total of 450 surveys were ultimately completed. Additional data collection was not pursued due to time and resource constraints. Of the total number of completed surveys, 50 were considered problematic due to excessive missing data, "don't know" answer and response biases. The data from these surveys were not



included in the data set. Thus, a total of 400 usable responses were received. Table 1 presents the characteristics of sample. About 70% of the respondents were men and 50% of responses were from Osmangazi University. About 75% of respondents had used the library more than six times, and 51% of respondents indicated they relied on the library staff frequently when using the library. Moreover, about 35% of respondents said they intended to use the library in the future and recommended others to use the library. In addition, every two library meet students' information needs.

### **Table 1**

#### **Similarity and Differences amongst Students**

One of the benefits of a large respondent pool is the ability to do analysis on differences within the group. While there may be a set of similar characteristics that define a group, there may also be significant variation within that group. Academic user communities are not homogeneous in way they use libraries nor in their needs for library resources and services. In addition to differences between faculty and students, there may also be significant differences between those in different academic areas or by gender or some other demographic component. These have important implications for identifying user needs, concerns and issues that may be missed in analyzing aggregate results.

This article discusses issues and results associated with Osmangazi University Library and Anadolu University Library in Eskişehir and will compare similarities and differences in results.

Firstly, ANOVA with importance as dependent variable and grade as independent variable were conducted. I found that the effect of grade at the 5% significance level is significant ( $F_{5,394}=56,529$ ;  $p=0,000<0,05$ ). The results of the Tukey post hoc test did show that master students were found to be significantly more importance than the other grade students.

Moreover ANOVA with perception as dependent variable and grade as independent variable were conducted. I found that the effect of grade at the 5% significance level is significant ( $F_{5,394}=44,452$ ;  $p=0,000<0,05$ ). According to Tukey test, master students were



found to be significantly more perception than the 1 grade students, 2 grade students and 3 grade students.

ANOVA with importance as dependent variable and faculty as independent variable and ANOVA with perception as dependent variable and faculty as independent variable were conducted. There is no difference between faculty effects at 5% significance level. The different faculties do not affect the importance ( $p=0.700>0.05$ ) and perception. ( $p=0,221>0.05$ ). Namely, survey results did not show any statistical differences in responses by faculty.

Regarding sex differences, significant differences between male and female students were found in their importance ( $p=0,000<0.05$ ). Female students (mean=6.3549) were more importance of library service quality than male students (mean=6.0997). No gender effect was found in their perceptions ( $p=0,282$ ).

Regarding university differences, significant differences between Osmangazi and Anadolu students were found in their perceptions ( $p=0,002<0.05$ ). Anadolu students (mean=5,1405) were more satisfied with library service quality than Osmangazi students (mean=4,8988). No university effect was found in their importance ( $p=0,110$ ).

### **Paired t Test**

Service quality can be defined as the difference between what student importance of service and what performance they actually perceive. If importance scores are greater than perceived performance scores, then perceived quality is less than satisfactory and hence student dissatisfaction occurs (Kim, 2003:21; Brady, Cronin and Brand, 2002:19). In this case, paired t test was used.

Paired-t test was employed to test the significant difference between the two means of importance and performance. Table 2 shows the respective expectation means, importance means, gap means and t values.

The paired samples t tests between the respective performance means and importance means of all attributes showed that they were significantly different ( $p<0.01$ ). The negative gap means indicated that the perceived university library quality provided by university did not meet students' expectations. It should be noted that the importance scores in this study were greater than the perception scores for every item. The positive gap means indicated an



area of strength and a competitive advantage for the service provider. The result also showed that none of the aspects of service quality had negative gap score. All 29 statements indicated that the quality of service did not fall sort of the users' importance; user were generally satisfied with the service providers.

The smaller the gap, the better the service quality provided, and the greater the student satisfaction. The largest gap scores were found for 2.2825 (an online catalog that is easy to use).

Investigating the performance and importance of quality of service (Table 2) users gave the highest performance score of 5.92 for currency of information received. Meanwhile, there were the lowest score of 4.13 for online catalog that is easy to use. Compared to importance of quality of service, the users collectively gave the highest score of 6.65 for accuracy of information received. The lowest score of 5.54 referred to have the users' best interests at heart. Therefore, comparing the results between user's performance and importance on service quality had interesting findings, especially the differences among the gap means.

## **Table 2**

### **Factor Analysis**

The construct validity of the measures was tested using exploratory factor analysis (principal component analysis and varimax orthogonal rotation method). A factor analysis performed on the performance scores resulted in identifying five library service quality dimensions. The factor analysis extracted five factors with eigenvalues greater than one. Only factors with eigenvalue equal to or greater than 1 were considered significant and chosen for interpretation ([www.ncjrs.org/ondcppubs/treat/concensus/dembo.pdf](http://www.ncjrs.org/ondcppubs/treat/concensus/dembo.pdf):12; Akgül and Çevik, 2005:422; Hair, Anderson and Tatham, 1990:247). A varimax factor rotation was performed on the dimensions to examine the structure (Morrison, 1976:370; Srivastava and Carter, 1983:304; Filiz, 2003:216; Dyrstad, 1998:116; Tatlıdil, 2002:180; Hardle and Simar, 2003:289; Abdul-Wahab, Bakheit and Alawi, 2005:1268; Oman, Vesely, Mcleray, Harris-Wyatt, Aspy, Rodine and Marshall, 2002:250). After the rotation, one item (visually



appealing documentation) that failed to exhibit a factor of 0.50 was eliminated (Landrum and Prybutok, 2004:633). Factor analysis was repeated. Each item loaded with a factor greater than 0.50 on a single dimension. Table 3 shows a summary of the rotated components with loadings greater than 0.50. Five factors were extracted that explained 83.56 percent of the variance in the data (Total variance explained and paired t test of factors are in Appendix C).

These were labelled: A possible name for first factor was “Quality of library service provided”, a possible name label for factor 2 was “Quality of information and library environment”, a possible name for factor 3 was “Reliability”, a possible name label for factor 4 was “Quality of online catalog system” and a possible name for last factor was “Confidence”.

The process of naming factors has been demonstrated. It is not very scientific and is based on the subjective opinion of the analyst. Different analyst will no doubt assign different names to the same results because of the difference in their background and training. For this reason, the process of labeling factors is subject to considerable criticism. But if a logical name can be assigned that represents the underlying nature of the factors, it usually facilitates the presentation and understanding of the factor solution and therefore is a justifiable procedure (Hair, Anderson and Tatham, 1990:258).

### **Table 3**

### **Regression Analysis**

A regression analysis was performed to check the ability of each type of score to predict library service quality (Kim, 2003:105; Koerner, 2000:276). A linear regression analysis was used these five component using library satisfaction as the dependent variable. The object of this analysis is to quantify the relationship between the dependent variable and the independent variables (components). The model exhibited an adjusted  $R^2$  value of 0.63. All five variables were significant predictors of library satisfaction, and the t-values indicated that five component are strong predictors of library satisfaction. The results of this regression analysis are shown in Table 4. The variables in the model have great impact on student library satisfaction as indicated by the standardized  $\beta$  values that are useful for comparing the



regression coefficients with respect to their impact on dependent variable. The magnitude of these values shows the order of importance about impact on overall satisfaction.

#### **Table 4**

### **Discussion and Conclusion**

The research on measuring service quality has focused primarily on how to meet or exceed the student's expectations, and has viewed service quality as a measure of how the delivered service level matches student's expectations.

The concept of measuring the difference between importance and perceptions in the form of the SERVQUAL gap score proved very useful for assessing levels of service quality.

This study applied on adopted SERVQUAL instrument to measure the service of two university libraries. Gap analysis, factor analysis and regression analysis used to identify service shortfalls of the libraries. A number of recommendations to address these shortfalls have been proposed.

In this study gap analysis was employed to test the significant difference between the two means of performance and importance. The smaller the gap, the better the service quality provided, and the greater the student satisfaction.

Results of gap analysis indicated that the quality of service did not fall sort of the user's expectations; user were generally satisfied with the service providers. Moreover, a factor analysis performed on the performance scores resulted in identifying five library service qualities. Five factors were extracted that explained 83.56 percent of the variance in the data. Then, a linear regression analysis was performed on these five component using library satisfaction as the dependent variable. All five variable were significant predictors of library satisfaction, and the t-values indicated that five component are strong predictors of library satisfaction. It is said that the impacts on students' overall satisfaction of these factors are same level because the magnitude of standardized  $\beta$  value are close. These results show that these factors are important for library systems that improve student satisfaction degree in library system.



As a result, it can be said that five library service quality factors using in this study positively affected students' overall satisfaction and are crucial to an excellent library system.

Developing instruments were satisfactory but there is a need for continuous evaluation and verification of other researches because the student satisfaction instrument about user satisfaction in library varies with respect to time and technology.

There are no major significant differences in the perceptions of library service quality and in the importance of library service quality between faculties. Moreover, survey results did not show statistical differences in perceptions of library service quality by gender and between Osmangazi University and Anadolu University students.

The survival of a library very much depends on the benefits it brings to users. Its existence will be in question when users begin looking for alternatives to library services. One way to show value is by providing quality service. It is therefore important for the library to be aware of changing user expectations, and to continually strive to provide quality service to its users.

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*Service Quality of University Library: a Survey amongst Students at Osmangazi University and Anadolu University*

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Table 1: Characteristics of the student sample



<b>Faculty and School</b>	<b>Number of Osmangazi University Students</b>	<b>Number of Anadolu University Students</b>	<b>Total Number of Students</b>	<b>%</b>
Faculty of Economic and Administrative Sciences	40	26	66	16.5
Faculty of Education	24	28	52	13
Faculty of Arts and Sciences	102	68	170	42.5
Faculty of Fine Arts	0	11	11	2.8
Faculty of Engineering and Architecture	34	20	54	13.5
Faculty of Communication Sciences	0	22	22	5.5
Faculty of Law	0	11	11	2.8
School of Civil Aviation	0	6	6	1.5
School of Physical Education and Sport	0	3	3	0.7
Faculty of Pharmacy	0	5	5	1.2
<b>Gender</b>				
Male	136	134	270	67.5
Female	64	66	130	32.5
<b>Grade</b>				
1	28	34	62	15.5
2	28	28	56	14
3	70	70	140	35
4	36	43	79	19.8
5	0	2	2	0.5
Master	38	23	61	15.2



	<b>200</b>	<b>200</b>	<b>400</b>	
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Table 2: Paired samples statistics

Attributes	Performance Means (SD)	Importance Means (SD)	Gap Means (importance-performance)	T value	p
1	5,4950(0,8814)	6,0850(0,9722)	0,5900	8,684	0,000
2	5,5100(0,9445)	6,4500(0,6919)	0,9400	19,250	0,000
3	5,1775(1,0458)	5,9650(1,1054)	0,7875	13,213	0,000
4	4,2550(1,5527)	5,7025(1,3242)	1,4475	26,995	0,000
5	5,2725(1,0937)	6,0825(0,9662)	0,8100	10,056	0,000
6	4,6225(1,1037)	6,0300(0,9199)	1,4075	22,869	0,000
7	4,7725(1,1309)	5,6675(0,6426)	0,8950	11,934	0,000
8	5,5375(0,9059)	6,1850(0,7630)	0,6475	15,156	0,000
9	4,9775(0,8596)	5,9450(0,9897)	0,9675	16,812	0,000
10	5,5150(1,4663)	6,2225(0,9166)	0,7075	9,386	0,000
11	4,5525(1,7987)	6,3925(0,7615)	1,8400	19,648	0,000
12	4,4425(1,7462)	6,1775(0,8353)	1,7350	15,869	0,000
13	4,6625(1,8116)	6,1000(0,9630)	1,4375	12,063	0,000
14	4,4900(1,3188)	6,2125(0,6110)	1,7225	25,536	0,000
15	5,0425(2,2120)	6,6125(0,6881)	1,5700	12,857	0,000
16	4,7050(1,1881)	5,9625(0,7633)	1,2575	17,712	0,000
17	4,8400(1,3468)	5,5425(1,2874)	0,7025	9,686	0,000
18	4,6650(1,3992)	6,1825(0,9227)	1,5175	20,531	0,000
19	4,4700(1,4121)	6,2025(0,7402)	1,7325	23,596	0,000
20	5,6175(1,0555)	6,6525(0,6346)	1,0350	16,274	0,000
21	5,3375(1,3521)	6,2500(0,7609)	0,9125	15,806	0,000
22	5,4550(1,1603)	6,1625(1,0142)	0,7075	12,531	0,000



23	5,7650(0,9629)	6,4425(0,7092)	0,6775	10,540	0,000
24	5,1600(1,1950)	6,1700(1,0602)	1,0100	14,955	0,000
25	5,9200(0,7176)	6,5300(0,5831)	0,6100	13,311	0,000
26	4,1300(1,6123)	6,4125(0,8361)	2,2825	24,121	0,000
27	4,9100(0,8207)	6,4725(0,7620)	1,5625	26,851	0,000
28	4,9275(1,3216)	6,2825(0,7204)	1,3550	16,903	0,000
29	5,3424(1,0835)	6,2025(0,8766)	0,8600	12,767	0,000

Table 3 Rotated component matrix of performance scores

	1	2	3	4	5
Providing service as promised	,942				
Readiness to respond to users' requests	,927				
Courteous staff	,865				
Staff who instill confidence in users	,917				
Making users feel secure about transactions	,889				
Staff who are knowledgeable about questions	,890				
Having the users' best interests at heart	,618				
Dealing with users in a caring fashion	,705				
Understanding the needs of users	,920				
Precision of information received	,675				
An online catalog that is easy to use	,809				
Accuracy of informed received		,782			
Reliability of information received		,772			
Relevance of information received		,753			
Currency of information received		,751			
Visually appealing facilities		,623			
Neat, professionally appearing staff		,514			
Dependability in handling users' problems			,607		
Performing service right the first time			,600		



Providing service at the promised time			,835		
Prompt service to users			,617		
Willingness to help users			,719		
Giving users individual attention			,830		
Completeness of information received			,697		
An online catalog that is easy to learn				,762	
An online catalog that you can interact with in a clear and understandable way				,615	
An online catalog that is easy to become skillful at using				,849	
Keeping users informed					,732

Table 4: Regression results of library satisfaction on five components

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	5,205	0,037		142,409	,000
1. factor	0,257	0,037	0,215	7,031	,000
2. factor	0,515	0,037	0,429	14,066	,000
3. factor	0,228	0,037	0,190	6,226	,000
4. factor	0,299	0,037	0,249	8,172	,000
5. factor	0,661	0,037	0,551	18,051	,000
Adjusted $R^2=0.63$ ; $F_{5,394}=135,738$ $p<0.001$					

### Appendix A

**How important this      How the library**



	item is to me		performs here	
	Low	High	Low	High
1.)Visually appealing facilities	1	2 3 4 5 6 7	1	2 3 4 5 6 7
2.)Neat, professionally appearing staff	1	2 3 4 5 6 7	1	2 3 4 5 6 7
3.)Visually appealing documentation	1	2 3 4 5 6 7	1	2 3 4 5 6 7
4.)Providing service as promised	1	2 3 4 5 6 7	1	2 3 4 5 6 7
5.)Dependability in handing users' problems	1	2 3 4 5 6 7	1	2 3 4 5 6 7
6.)Performing service right the first time	1	2 3 4 5 6 7	1	2 3 4 5 6 7
7.)Providing service at the promised time	1	2 3 4 5 6 7	1	2 3 4 5 6 7
8.)Keeping users informed	1	2 3 4 5 6 7	1	2 3 4 5 6 7
9.)Prompt service to users	1	2 3 4 5 6 7	1	2 3 4 5 6 7
10.)Willingness to help users	1	2 3 4 5 6 7	1	2 3 4 5 6 7
11.)Readiness to respond to users' requests	1	2 3 4 5 6 7	1	2 3 4 5 6 7
12.)Courteous staff	1	2 3 4 5 6 7	1	2 3 4 5 6 7
13.)Staff who instill confidence in users	1	2 3 4 5 6 7	1	2 3 4 5 6 7
14.)Making users feel secure about transactions	1	2 3 4 5 6 7	1	2 3 4 5 6 7
15.)Staff who are knowledgeable about questions	1	2 3 4 5 6 7	1	2 3 4 5 6 7
16.)Giving users individual attention	1	2 3 4 5 6 7	1	2 3 4 5 6 7
17.)Having the users' best interests at heart	1	2 3 4 5 6 7	1	2 3 4 5 6 7
18.)Dealing with users in a caring fashion	1	2 3 4 5 6 7	1	2 3 4 5 6 7
19.)Understanding the needs of users	1	2 3 4 5 6 7	1	2 3 4 5 6 7
20.)Accuracy of information received	1	2 3 4 5 6 7	1	2 3 4 5 6 7
21.) Precision of information received	1	2 3 4 5 6 7	1	2 3 4 5 6 7
22.) Reliability of information received	1	2 3 4 5 6 7	1	2 3 4 5 6 7
23.) Completeness of information received	1	2 3 4 5 6 7	1	2 3 4 5 6 7
24.) Relevance of information received	1	2 3 4 5 6 7	1	2 3 4 5 6 7
25.) Currency of information received	1	2 3 4 5 6 7	1	2 3 4 5 6 7
26.) An online catalog that is easy to use	1	2 3 4 5 6 7	1	2 3 4 5 6 7
27.) An online catalog that is easy to learn	1	2 3 4 5 6 7	1	2 3 4 5 6 7
28.) An online catalog that you can interact with in a clear and understandable way	1	2 3 4 5 6 7	1	2 3 4 5 6 7
29.) An online catalog that is easy to become skillful at using	1	2 3 4 5 6 7	1	2 3 4 5 6 7

Strongly disagree

Strongly agree



*Service Quality of University Library: a Survey amongst Students at Osmangazi University and Anadolu University*

1) The library enables me to accomplish tasks faster	1	2	3	4	5	6	7
2) The library improves my ability to do research	1	2	3	4	5	6	7
3) The library enhances my effectiveness	1	2	3	4	5	6	7
4) The library enables me to be more productive	1	2	3	4	5	6	7
5) The library makes it easier to do research	1	2	3	4	5	6	7
6) Overall I find the library at this organization useful	1	2	3	4	5	6	7

1) How adequately does the library meet your information needs?

inadequate    1 2 3 4 5 6 7    adequate

2) How effective is the library?

ineffective    1 2 3 4 5 6 7    effective

3) How efficient is the library?

inefficient    1 2 3 4 5 6 7    efficient

4) Overall are you satisfied with the library?

dissatisfied    1 2 3 4 5 6 7    satisfied

5) How would you rate the quality of service provided by the library as a whole?

poor    1 2 3 4 5 6 7    excellent

1) How often have you physically visited the library at your facility in the past year?

none    once    2 to 5 times    6 to 10 times    11 or more times  
1        2            3                    4                    5

2) How often have you used the library's online catalog in the past year?

none    once    2 to 5 times    6 to 10 times    11 or more times  
1        2            3                    4                    5

3) How often have you requested help or service from the library over the phone or through email in the past year?

none    once    2 to 5 times    6 to 10 times    11 or more times  
1        2            3                    4                    5



4) How often do you rely on library staff when using the library?

none   infrequently   frequently   nearly always   always  
1            2                    3                    4                    5

5) Do you intend to use the library at your facility in the future?

not at all likely   1 2 3 4 5 6 7   extremely likely

6) Would you recommend others to use the library at your facility?

not at all likely   1 2 3 4 5 6 7   extremely likely



## **Appendix B**

Eskişehir Osmangazi University and Documentation Centre covers an area of 7.200m<sup>2</sup> with exhibition halls while Anadolu University Library and Documentation Centre covers an area of 12.330m<sup>2</sup> with exhibition halls. Both libraries serve 700 simultaneous sitting readers. In Eskişehir Osmangazi University and Documentation Centre, there are overall 80.000 publications, of these 38.250 are books and 32.313 are bound periodicals. Library subscribes to 240 periodicals and has access to full text e-journals. In Anadolu University Library and Documentation Centre, there are overall 180.000 publications, of these 178.469 are books and 25.516 are bound periodicals. Library subscribes to 1.227 periodicals and has access to full text e-journals. There are 30 personnel in both libraries.



**Appendix C**

**Table: Total variance explained**

Component	Total Variance Explained								
	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	11,580	41,357	41,357	11,580	41,357	41,357	9,346	33,378	33,3
2	5,101	18,218	59,575	5,101	18,218	59,575	4,533	16,190	49,5
3	3,753	13,405	72,980	3,753	13,405	72,980	4,255	15,197	64,7
4	1,668	5,959	78,939	1,668	5,959	78,939	3,031	10,825	75,5
5	1,295	4,624	83,563	1,295	4,624	83,563	2,232	7,973	83,5
6	,918	3,280	86,843						
7	,825	2,945	89,788						
8	,634	2,265	92,052						
9	,535	1,909	93,962						
10	,381	1,361	95,323						
11	,248	,887	96,211						
12	,223	,795	97,006						
13	,168	,599	97,605						
14	,144	,515	98,120						
15	,105	,374	98,494						
16	8,507E-02	,304	98,798						
17	7,597E-02	,271	99,069						
18	5,930E-02	,212	99,281						
19	5,530E-02	,198	99,479						
20	3,563E-02	,127	99,606						
21	2,863E-02	,102	99,708						
22	2,472E-02	8,828E-02	99,797						
23	1,626E-02	5,807E-02	99,855						
24	1,510E-02	5,393E-02	99,909						
25	1,153E-02	4,118E-02	99,950						
26	7,029E-03	2,510E-02	99,975						
27	4,958E-03	1,771E-02	99,993						
28	2,090E-03	7,465E-03	100,000						

**Table: Paired samples statistics for factors**

Factors	Performance Means (SD)	Importance Means (SD)	Gap Means (importance-performance)	T value	p
1	4,6261(1,4040)	6,1625(0,5133)	1,5364	22,860	0,000
2	5,5263(0,7856)	6,3417(0,5243)	0,8154	19,756	0,000
3	5,0900(0,8459)	6,0504(0,4110)	0,9604	19,410	0,000
4	5,0600(0,9130)	6,3192(0,6583)	1,2592	21,002	0,000
5	5,5375(0,9059)	6,1850(0,7630)	0,6475	15,156	0,000