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The Quality Of Service Of The Distance Education

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Abstract

The purpose of this paper is to measure the quality of service of the distance education that received from the educational institutions which are among the leading service enterprises, to find out students' expectations, to what extent students expectations are met and whether or not the acquired findings vary by demographical information of the students. In this paper, the data obtained from the questionnaire with 463 students is evaluated. The examination of partial SERVQUAL scores indicate that expectations are not met for all five dimensions effecting service quality in the universities providing e-MBA education.

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1. Introduction

Our century seems to be an age to witness a lot of political, social and technological changes. Similar changes has been also undergone by previous centuries. But globalization appears to push these changes to expand and continue with an increasing efficiency. These developments and changes have significant impacts on life's, demands and needs of people, while affecting styles and approach of meeting those needs. Therefore these changes in this century have required a new way of understanding in education service.

Since, it intends to train those who are willing to join in professional life in the future, education service is one of the most critical service fields in the service sector. In this respect, increasing the quality of higher education in universities serves for the purpose of training people individually so that they provide society with maximum benefit in their own professional field. On the other hand, educational service quality is also a factor effecting

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university preferences of the youth. It is seen that students, applying for university entrance exam, place the name of the universities known for their qualified educational services on the top of the lists on the preference forms.

In the 21th century, it is obvious that all the societies has become in more need of education owing to an information explosion. In turn it has led to the development of new educational technologies and methods to have caused change in education by degree. Traditional educational institutions fall behind the increasing education demand. Resulting education deficit has been gradually growing day by day. This situation has urged people to search for alternative education to traditional one and the concept of "Distance Education" is an output of this search. The main driving force behind these developments is the effort of meeting educational demands of people as a result of rise in numbers of student, education demand of different student populations, former students, rise in jobs and working bringing with it a lifelong learning.

Education is a concept on which much stress is placed in the world. It is clear that those societies with high level of education feature fast development course and have caught competitive advantage in various areas. This potential could not be achieved by a common educational system. Here the importance of educational quality reveals. Education leading to development means quality education.

Quality is a relativistic concept which varies depending on personal needs. Also, goods quality and service quality are two separate concepts, because of their peculiar characteristics. Yet, it is possible to determine the expectations and perceptions of service receivers. Literature review shows that SERVQUAL is one of the common models for measuring service quality. This model is used to measure the service quality perceived based upon the gap between perceived and expected services. And in this study SERVQUAL model is used in order to measure quality of service of distance education.

1.1. Quality, Service and Service Quality

Turkish Language Society (Türkçe Sözlük, 2005, p.896) defines the "Service" as standing someone in good stead or performing work good for somebody. According to Mucuk (2004, p.299) service is the benefit bought by consumers, which has nothing to do with ownership; Kotler (2003, p.444) says that "A service is any act or performance that one party can offer to another that is essentially intangible and does not result in ownership of anything. Its production may or may not be tied to a physical product". Today, we live in a service economy in which relationships are much more important than physical products. Howsoever high the share of technology in a service offered may be, main component is human being. Hence, service, provided either by machine or human, is a whole of intangible activities oriented to meet demands of people. As for service organizations, they lie across a broad spectrum ranging from education, health and communication to banking, insurance business and tourism.

Concept of quality, according to Deming (1998, p.137), is "Judgement of consumer on product or service produced by a business firm" and is "Conformity degree of a product to requirements" for Crosby (1979), Turkish Standards Institute (TSE) defines quality as "Whole of the features of a product or a service, based on its capability to meet the given or possible needs".

According to American Society for Quality (ASQC) "Quality is the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs."

Generally, all the quality definitions concern product quality, falling behind explaining service quality. Whereas the concept of service quality is defined by Parasuraman, Zeithaml & Berry (1988 p.45) as the direction and degree of the gap between expectations and perceived performance based on comparison made by customers between their expectations before receiving service and their real service experience.

In its broadest sense, service quality implies rendering great or perfect service to meet customers' expectations. According to Odabası (2004, p.93) it is an ability of a business firm to meet or go beyond expectations of customers as is seen, both definitions attach more importance to customer expectation than other quality determinants. So, the quality here is the one which is perceived by customer.

In terms of expectations and perceptions of customer, service quality can be defined by Parasuraman, Zeithaml and Berry (1985, p.42), as comparison between those expectations and perceptions. Perceiving many factors, customers interpret quality in his/her way and compare service rendered with service he/she perceived. What is important here is that customers should perceive high level of service. If a comparison gives a negative difference between expected and perceived qualities, it is obvious that customer interpreted negatively the service quality. If the result is a positive difference then it may be said that customer made a positive interpretation.

Thus, service quality can be described by Sekerkaya (1997, p.14) as "A measure of realization level of service by customer's expectations". However difficult to define service quality, business managements should know these two things: At first, quality is defined by customer not by producer. Second, service quality which has failed to satisfy customers' expectations is condemned not only to lose existing customers but also to fail to gain new customers in (Stanton, Etzel and Walker, 1997, p.524). Again the point is that quality determinant is the customer and so firms should give weight to demands of their customers.

2. Measuring Service Quality

Although many methods and equipment have been developed for measuring service quality by this time, questionnaire_survey method has been combined with SERVQUAL as an assessment method while conducting the research project designed for measuring service quality of education service rendered with e-MBA programs in distance education.

2.1. Conceptual Model of Service Quality-Gap Analysis

This model developed by Parasuraman, Zeithaml and Berry (1985, pp. 48-49) prefer "Perceived service quality" instead of service quality. Perceived service is a result of comparison between customer's expectations before receiving service (i.e. expected service) and actual service experience of that customer. Expectations include demands and desires of customers related to given service. Relationships between expected and perceived services as follows:

If expected service is > perceived service, then perceived quality is far from satisfactory and implies an unacceptable quality level.

If expected service is = perceived service, then perceived quality will be satisfactory.

If expected service is < perceived service, then perceived quality will be quite over satisfactory level and reach the ideal quality level.

This model includes approach and implementations of the service firms along with gaps between expected and perceived service and source of these gaps. In this context five types of gap is shown in figure 1 (Parasuraman, Zeithaml & Berry, 1994, p.4).

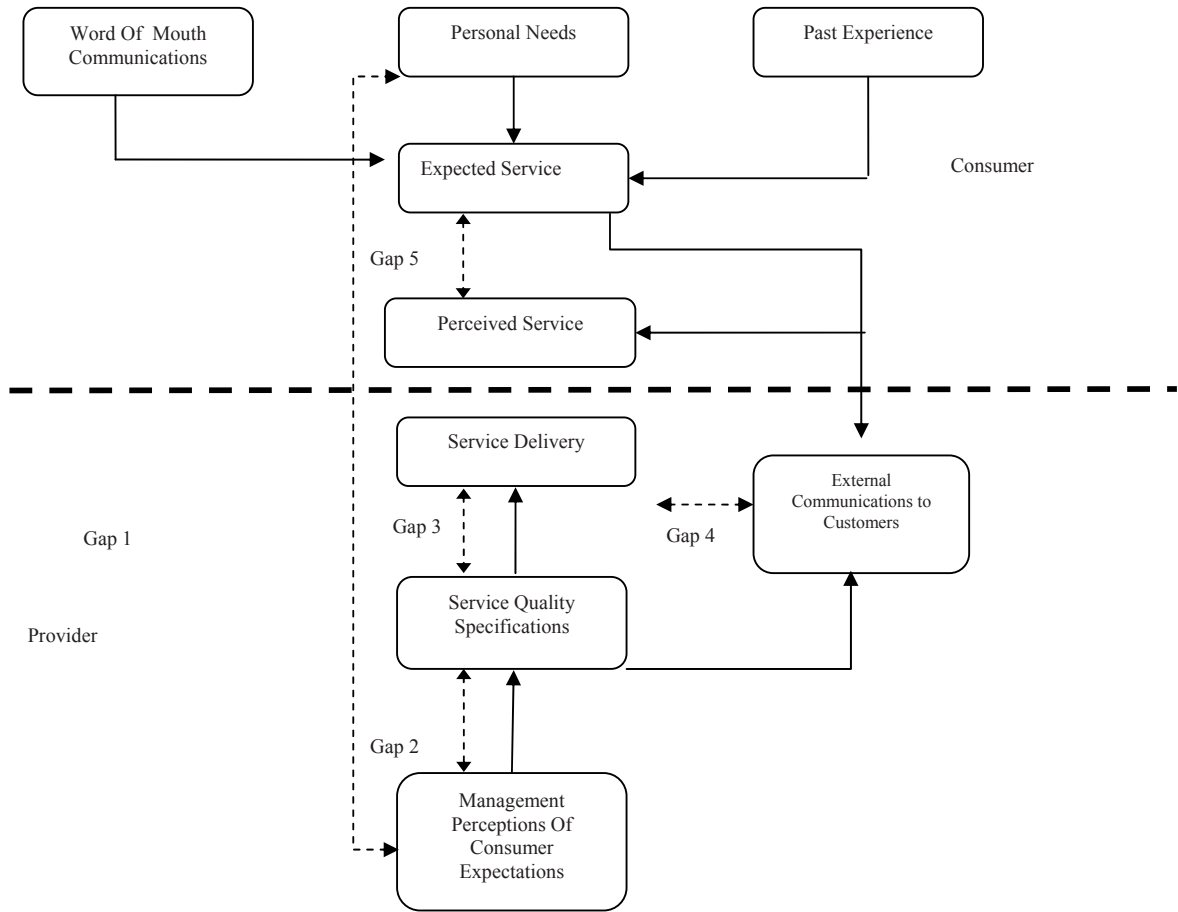


Fig. 1. Conceptual Model of Service Quality

Zeithaml, Berry and Parasuraman (1990) revealed that 10 criteria used by consumers in evaluating service quality. These (dimensions) are reliability, responsiveness, competence, access, courtesy, communication, credibility, security, empathy and tangibles. Having assessed surveys with factor analysis and reduced 10 dimensions determining service quality for 5 dimensions. Those five dimensions determining service quality as explained below:

- **Tangibles:** Physical facilities, equipment and appearance of personnel and communication instruments.
- **Reliability:** Performing the service based on principle of accuracy and honesty. In other words, organizations should fulfill their promise to customers.
- **Responsiveness:** Employees being ready and willing to perform service.
- **Assurance (Contains competence, courtesy, credibility and security):** Knowledge and kindness of employees and their ability to inspire trust and confidence.
- **Empathy (Contains access, communication and understanding the customer):** Making effort to know customer and learn his/her needs.

3. An Application Of The Quality Of Service Of The Distance Education

3.1. Purpose

The purpose of this paper is to measure the quality of service of distance education that received from the educational institutions which are among the leading service enterprises. It intends to evaluate what students expect from education service they receive, to what extend their expectations are met and whether or not the acquired findings vary by demographical information of students. Moreover, it is tried to determine whether or not there are any differences among similar higher education institutions implementing distant learning program in terms of their educational service quality. It is aimed at helping increase the quality of existing higher education services by evaluations based on the results of this comparative study.

3.2. Method

The survey which was conducted in this study was composed of four pages plus a briefing note addressing respondents. First two pages of the form includes 22 likert type questions, while last two pages includes questions related to demographical variables.

In the study it is to be determined at which level perceptions meet expectations by measuring expectations and perceptions of students as customers according to SERVQUAL methodology. SERVQUAL model suggests that perceived service quality is based on discrepancy/gap between customers' expectations from a service and the performance of the service firm rendering that service. Therefore, Zeithaml, Parasuraman and Berry's (1996, p. 23) model is composed of two main parts: Expectations which include 22 variables representing five dimensions (Reliability, responsiveness, assurance, empathy and tangibles), help understand customers' general expectations related to the service. These 22 variables were found out by investigating possible inherent features in a quality service in accordance with SERVQUAL criteria, i.e. the customer's value judgement (Degermen, 2006, p. 38).

Second part of the model, developed by Zeithaml, Berry and Parasuraman (1996, p.23), consists of perceptions. In this part all the 22 variables, which are to be used for measuring customers' judgements about a service firm, are compared. As a result, if a received service meets or is over expectations, service will be decided as a quality one. But received service is less than expected, dissatisfaction will occur. Thus, SERVQUAL is also called as "Gap analysis".

First part aims at measuring the students' expectations and the second part includes measurement of students' perceptions. However, in this study the respondents were subjected to a 5-point likert type scale (1=Strongly disagree, 5=Strongly agree) which is converted from the original 7 point type. This conversion was because of common usage, relatively easy assessment and answering of the 5 point type.

In Turkey, universities implement distance education including associate degree, undergraduate degree, degree completion, non-thesis master degree and master degree programs. In recent years, there has been a significant increase in the number of students taking distance education. Since they have seen this potential, many universities started to give weight to establish distance education programs. Today, there are 156 universities (54 of them are foundation universities) in Turkey (www.yok.gov.tr). Among those implementing distance education programs there are 21 universities with e-MBA program, including newly opened ones with no student yet. These include; Anadolu University, Ankara University, Ataturk University, Bahcesehir University, Beykent University, Cukurova University, Ege University, Fatih University, Gazi University, Gaziantep University, Isik University, Istanbul Aydın University, Istanbul Bilgi University, Karabuk University, Karadeniz Technical University, Maltepe University, Mersin University, Ondokuz Mayıs University, Sakarya University, Suleyman Demirel University and Zirve University.

Population is composed of students receiving education in the universities having e-MBA programs. Having identified those 21 universities with distant learning e-MBA programs in Turkey and considering difficulty of access to all and time limitation, the survey form prepared for this study was applied to only five universities

selected by means of random sampling. Survey sample group is composed of all students of those five selected universities. Simple random sampling is a method by which samples from the population are chosen in such a way that every sample has an equal chance to be chosen. According to Gegez (2010, p.211); it is intended to make the units of the population equally likely to be selected. All the students taking distant learning e-MBA programs at those five selected universities are incorporated to the sampling. At the beginning students were informed about the study and asked to participate online. Each student with his/her assigned username and password was given right to participate online in the survey. In total, 463 students participated in the study.

3.3. Data Analysis and Methods

Data obtained in this survey were computerized in Microsoft Excel and SPSS 18.0 programs. Specific calculations and statistical analysis used in SERVQUAL model were made by SPSS system.

Generally, a survey is prepared having 22 questions related with five dimensions - reliability, responsiveness, credibility, empathy and tangibles- on SERVQUAL scale. According to the model, consumer have expectations about those five variables before receiving service and then compare these expectations with the service given. If service they receive meet their expectations it is concluded that the service is of quality. In other words, service quality is equals to discrepancy/gap between expected and perceived service.

In this study, 22 statements were put into each survey form with a view to determine expectations and perceptions in accordance with five dimensions standard SERVQUAL scale developed by Parasuraman, Zeithaml and Berry. Students were asked to state to what extent they agree with 22 statements at a scale of 1 to 5 at first for an ideal university having e-MBA program and next, their current universities. Agreement degrees were designed as 1-Strongly disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-Strongly Agree. Next comes the scoring part for each dimension assessment on the scale of 100 to calculate importance weights of each quality dimension.

The other part includes questions directed to obtain students' demographic information, their satisfaction level with the e-MBA programs that they chosen, whether or not they faced with any problem during education and whether or not they find the solutions offered adequate, how they think about recommending the program they attended. 22 questions prepared for expectation and perception levels on the scale are distributed as follows and the statements composing dimensions are shown in Table 1.

Table 1. Statements Composing Service Quality Dimensions

Statement	PHYSICAL/TANGIBLE FEATURE
1	Distance Education Portal should always be accessible/usable
2	Sufficient number of most recent sources (Book, Journal, Article, Electronic Databases, etc...) in library should be accessible
3	Web page should have striking, clear, understandable and good view.
4	Safe environment should be ensured in the Distance Education Portal.
	RELIABILITY
5	Courses, in large part, should be practice-oriented (e.g. case study)
6	Students should be prompted to group works in practice oriented parts of courses
7	Students should be allowed to contend for prize such as degree, incentive etc...
8	Students should be in interaction with faculty members and other students
9	Program should offer elective courses to meet personal needs for career

INTEREST-RESPONSIVENESS OF FACULTY MEMBERS AND ADMINISTRATIVE STAFF

- 10 Faculty members should help students in every matter for which they need counselling immediately.
- 11 Faculty members should be available at extracurricular times
- 12 Administrative staff should deal with each student one by one (registration procedures, course selection, etc...)
- 13 Library staff should meet demands and needs of students immediately

CREDIBILITY

- 14 Lectures should be given by the faculty members who are expert in their fields
- 15 Course contents should be prepared in accordance with course schedule
- 16 Course content should be prepared conspicuously and given by faculty members
- 17 Faculty members should be fair in grading
- 18 Faculty members should be experienced
- 19 Courses should be largely given by faculty members with Prof. title

EMPATHY

- 20 Faculty members should help students and give advices on their career planning
 - 21 Advisers should help students complete the program smoothly
 - 22 Students should be provided with advisory service about employment opportunities offered by the diploma they are to get by this program
-

Service quality determinant is the gap/discrepancy between performance of and expectations for a given service as to its receiver. For the analysis, gap score calculation is made by subtracting the expectation score from the perception score for each item that e-MBA students give. This operation is open to two types of SERVQUAL scoring: Unweighted SERVQUAL Score and the Weighted SERVQUAL Score. First step is calculated without taking into account the importance weight rated for each quality dimension by students while the later takes accounts of the importance weight given by students.

Next step is the calculation of average SERVQUAL Score involving service quality dimensions. Two stages are followed for each dimension:

- Sum up the SERVQUAL scores for each of the statements (Perception-Expectation) and divide the sum by the number of the statements making up the dimension.
- Sum up the scores obtained per students in the first stage and divide the sum by the number of students.
- Resulting SERVQUAL Scores are averaged, that is, SERVQUAL score found out for each dimension are summed up and divided into five (number of dimensions) and so obtained value gives the Unweighted SERVQUAL Score.
- The Weighted SERVQUAL Score is calculates at four stages as follows:
 - Average SERVQUAL Score is calculated for each student for each of five dimensions.
 - Obtained score per each dimension for each student at the first stage is multiplied by the importance weight given to that dimension by each student. (Importance weight is obtained by dividing scores rated by customer to given dimension into 100)
 - Resulting Weighted SERVQUAL Scores per student for five dimensions in the second stage are added up and thus a overall Weighted SERVQUAL Score is obtained.
 - Calculated scores for overall customers of which number is represented by “N” at the third stage is summed up and divided into overall “N”.

4. Research Findings and Comments

SERVQUAL scale applied here was analysed in terms of its reliability and its alpha coefficients are established in a view to determining its internal coexistence.

In these analyses, definitive statistics including frequency tables, crosstabulation tables and averages were used as well as t-test and anova in comparing service quality scores by participants' demographic aspects and universities. Anova analyses conducted in comparing service quality levels by demographic features and universities are accompanied by Levene test for homogeneity between groups and Tukey post hoc test for determining between which groups discrepancies occur. But when Levene test results in inhomogeneity between groups Welch test is put into use not Anova. It is shown on statistic tables that which analysis was used. Survey findings were assessed by distinctive calculation method of SERVQUAL system and analysed by some statistical techniques.

4.1. Findings of Reliability Analysis

Reliability is a concept related with research findings. Gegez (2010, p.184) explained that basically reliability indicates whether or not the same results would be obtained when a research is repeated and whether respondents would give same answers in case of no change of their state. For reliability analysis of research Cronbach's alpha model was used. Cronbach's alpha model is the one used for measuring internal consistency, in the words of George and Mallery (2001, p. 209), it is an indicator of to what extent all the items in a scale can successfully measure any dimension.

Table 2. Reliability Coefficient

	Expectation	Perception
	Cronbach α	
Total scale	0,947	0,959
Tangibles	0,887	0,812
Reliability	0,791	0,873
Responsiveness	0,841	0,886
Credibility	0,857	0,873
Empathy	0,843	0,907

Reliability analysis comes to the front to gauge inter-closeness degree of questions when calculation is made by summing the values of answers to certain numbers of questions. This is also called as internal consistency. Most preferred method for reliability analysis is Cronbach Alpha model. This model calculates the coefficient alpha. Coefficient is obtained by comparing overall variations of question to general variation in a scale. Alpha is a standard change mean and varies between 0 and 1. In social researches, alpha value of 0,70 is accepted as adequate for reliability (Nakip,2006, p.146). For in this study reliability values of scales and sub-dimensions are at acceptable levels, t-tests, variation and SERVQUAL analyses were proceeded for testing research hypotheses.

4.2. Demographic Features

34,1% of total participants was female and 65,9% were male, while 50,5% participants were married and 40,5% single. Initially students from age group between 21-30 with 60,7% and then age group between 31-40 with 33,7% were enlisted. These two age groups (between 21-40) make up 94,4% of whole participation.

Table 3. Demographic Distribution

Gender Distribution			Age Distribution		
	Number	%		Number	%
Female	158	34,1	Under 20	1	0,2
Male	305	65,9	21-30	281	60,7
Total	463	100,0	31-40	156	33,7
Distribution by Marital Status			41-50	23	5,0
			51-60	1	0,2
	Number	%	61 and Over	1	0,2
Married	234	50,5	Total	463	100,0
Single	229	49,5			
Total	463	100,0			

Distribution of the professional sectors that e-MBA service quality measurement study participants work, is like this: 14,3% is in Banking, 8,4% in Health, 8% in Service, 7,3% in Informatics, 6,9% in Education, 5,6% in Construction while of them 27,6% serves as engineer, 16,4% as manager, 12,7% as banker, 6,3% as accountant.

Table 4. Professional Experience

Occupational Distribution			Distribution by Professional Field		
	Number	%		Number	%
Engineer	128	27,6	Other	169	36,5
Other	111	24,0	Banking	66	14,3
Manager	76	16,4	Health	39	8,4
Banker	59	12,7	Service	37	8,0
Accountant	29	6,3	Informatics	34	7,3
Teacher	20	4,3	Education	32	6,9
Self Employment	10	2,2	Construction	26	5,6
Economist	9	1,9	Food	18	3,9
Academician	7	1,5	Communication	18	3,9
Security officer	6	1,3	Logistics	11	2,4
Medical Doctor	5	1,1	Security	7	1,5
Architect	3	,6	Economy	6	1,3
Total	463	100,0	Total	463	100,0

Almost all of the participatory e-MBA students (96,8%) resides in Turkey. In this distribution striking point is that participation from Afghanistan with 1,3% was the highest one among the participation ratios from abroad. When participation by city is examined, it is seen that the most participation was from Istanbul with 50,5%, and

then comes Bursa with 7,3%, Ankara with 6,3%, Kocaeli with 5,2%, Izmir with 4,3%, Sakarya with 3,7% and Balikesir with 1,7%.

Table 5. Distribution by Country of Residence

	NUMBER	%
AFGHANISTAN	6	1,3
GERMANY	3	,6
IRAQ	1	,2
SPAIN	1	,2
UZBEKISTAN	1	,2
RUSSIA	1	,2
TURKEY	448	96,8
UKRAIN	2	,4
TOTAL	463	100,0

SERVQUAL Scores Comparisons by Demographic Features

In order to determine whether or not the expectations of e-MBA students were met in terms of their demographic features, t-tests were used for comparison by gender and marital status and variance analyses for comparison by age and income status.

Table 6. Comparison Test for Service Quality Dimensions by Gender

	Gender	N	Mean	Std. Deviation	Std. Error Mean	t	p(sig.)
Tangibles	Female	158	-,172848	,2554850	,0203253	-2,298	,022*
	Male	305	-,121369	,1644927	,0094188		
Reliability	Female	158	-,178658	,2489990	,0198093	-,378	,706
	Male	305	-,168774	,2755989	,0157807		
Responsiveness	Female	158	-,186092	,2197352	,0174812	-,611	,542
	Male	305	-,171451	,2563722	,0146798		
Credibility	Female	158	-,167954	,2550665	,0202920	-2,108	,036
	Male	305	-,119978	,2193538	,0125602		
Empathy	Female	158	-,174072	,1881578	,0149690	-1,654	,099
	Male	305	-,142295	,1999835	,0114510		
SERVQUAL SCORE	Female	158	-,175925	,1658452	,0131939	-1,928	,055
	Male	305	-,144773	,1643642	,0094115		

Overall SERVQUAL scores do not differ by gender for e-MBA students. But, service quality score differs at sub-dimension of tangibles. Satisfaction level of female students from tangibles are less male students'. In other words, males are satisfied with their universities in terms of tangibles in comparison with females.

Table 7. Comparison Test for Service Quality Dimensions by Marital Status

	Marital Status	N	Mean	Std. Deviation	Std. Error Mean	t	p(sig.)
Tangibles	Married	234	-,136325	,1786907	,0116814	,282	0,778
	Single	229	-,141605	,2226850	,0147154		
Reliability	Married	234	-,188333	,2920399	,0190912	-1,322	0,187
	Single	229	-,155607	,2372965	,0156810		
Responsiveness	Married	234	-,164306	,2262274	,0147889	1,081	0,280
	Single	229	-,188854	,2614847	,0172794		
Credibility	Married	234	-,136467	,2345957	,0153360	-,011	0,991
	Single	229	-,136230	,2318680	,0153223		
Empathy	Married	234	-,142863	,1892568	,0123721	1,138	0,256
	Single	229	-,163639	,2033258	,0134361		
SERVQUAL SCORE	Married	234	-,153659	,1635900	,0106942	,229	0,819
	Single	229	-,157187	,1674767	,0110672		

Overall and sub-dimensional perceptions of service quality about universities having e-MBA programs differs by marital status of students. As for service quality scores comparison by age variance analyses were used.

Table 8. Payoff Table of Homogeneity Tests for Age Groups Variations

	Levene Statistic	df1	df2	Sig.
Tangibles	,379	2	457	,685
Reliability	1,072	2	457	,343
Responsiveness	,126	2	457	,882
Credibility	2,581	2	457	,077
Empathy	,536	2	457	,586
Servqual	,573	2	457	,564

*Welch test is to be made

**One-way-Anova is to be made

According to the variance analysis hypotheses variances of groups to compare should be equal (Homogeneity). Homogeneity of age groups SERVQUAL scores variances were subjected to Levene tests. By means of one-way variance analysis it was found that total SERVQUAL scores and service quality score variances between age groups for each sub-dimension are homogeneous.

Table 9. Comparison Tests for Service Quality Scores by Age Groups

		Sum of Squares	df	Mean Square	F	Sig.
Tangibles	Between Groups	,071	5	,014	,350	,882
	Within Groups	18,678	457	,041		
	Total	18,749	462			
Reliability	Between Groups	,190	5	,038	,533	,751
	Within Groups	32,644	457	,071		
	Total	32,834	462			
Responsiveness	Between Groups	,090	5	,018	,301	,912
	Within Groups	27,493	457	,060		
	Total	27,584	462			
Credibility	Between Groups	,199	5	,040	,731	,601
	Within Groups	24,882	457	,054		
	Total	25,081	462			
Empathy	Between Groups	,082	5	,016	,422	,833
	Within Groups	17,739	457	,039		
	Total	17,821	462			
Servqual	Between Groups	,066	5	,013	,477	,793
	Within Groups	12,566	457	,027		
	Total	12,632	462			

*Significant at $p=0,01$ level

As a result of variance analyses, service quality perception from universities with e-MBA learning programs differs by age groups of students attending those universities. Variance analyses were also used in comparing service quality scores by income groups.

Table 10. Payoff Table of Homogeneity Tests for Income Groups Variations

	Levene Statistic	df 1	df2	Sig.
Tangibles	6,785	5	457	,000*
Reliability	1,305	5	457	,261**
Responsiveness	1,332	5	457	,249**
Credibility	1,079	5	457	,371**
Empathy	1,063	5	457	,380**
Servqual	1,307	5	457	,260**

*Welch test to be made

**One-way-anova to be made

According to the variance analysis hypotheses, group variances to compare should be equal to each other. Levene tests were conducted for testing homogeneity of SERVQUAL score variances by income groups. Having used one-way variance analyses, test results show that service quality score variances between age groups are homogeneous for sub-dimensions, except for total SERVQUAL scores and tangibles. Welch test was used in variance analysis for sub- dimension of tangibles because homogeneity hypothesis was not corresponded there.

Table 11. Investigation of Service Quality Scores Between Income Groups by Welch Test

Welch Test	Statistic ^a	df1	df2	Sig.
Tangibles	1,339	5	141,289	,251

Table 12. Comparison Tests for Service Quality Scores by Income Groups (One-way Variance Analysis)

		Sum of Squares	df	Mean Square	F	Sig.
Reliability	Between Groups	,557	5	,111	1,578	,165
	Within Groups	32,277	457	,071		
	Total	32,834	462			
Responsiveness	Between Groups	,233	5	,047	,779	,566
	Within Groups	27,351	457	,060		
	Total	27,584	462			
Credibility	Between Groups	,371	5	,074	1,372	,233
	Within Groups	24,710	457	,054		
	Total	25,081	462			
Empathy	Between Groups	,151	5	,030	,779	,566
	Within Groups	17,671	457	,039		
	Total	17,821	462			
Servqual	Between Groups	,169	5	,034	1,242	,288
	Within Groups	12,463	457	,027		
	Total	12,632	462			

*Significant at p=0,01 level

As a result of variance analyses it was understood that service quality perception from the universities having e-MBA learning programs do not differ by income status of students.

4.3. General SERVQUAL Scores and Its Assessment

Values which were obtained as a result of calculations made for realizing SERVQUAL analysis are shown in Table 13.

Without taking into account colleges at which students have education, it is seen that service quality score (SERVQUAL score=0,80456) of institutions rendering e-MBA service is subtractive.

Table 13. Expectation And Perception Averages Of All Participants And Expectation-Perception Gap Scores

		Perception		Expectation		Discrepancies of Averages		Sum of Factor Gap	Factor Gap Averages
Dimension	Statement Number	Average	Standard Deviation	Average	Standard Deviation	Expectation-Perception			Total Gap./k
Tangibles	1	463	4,1512	1,0355	4,7603	,7092	-6091	-3,1037	-,7759
	2	463	3,4233	1,1798	4,6091	,8168	-1,1857		
	3	463	3,7775	1,0651	4,5680	,7917	-7905		
	4	463	4,0778	,9178	4,5961	,7722	-,5184		
	5	463	3,3499	1,1727	4,2527	,9574	-,9028		
Reliability	6	463	2,8877	1,2691	3,6307	1,1878	-,7430	-4,0043	-,8009
	7	463	2,8251	1,3050	3,5875	1,2381	-,7624		
	8	463	3,7797	1,0985	4,2981	,9008	-,5184		
	9	463	3,4795	1,2445	4,5572	,8247	-1,0778		
Responsiveness	10	463	3,4946	1,1046	4,4039	,8622	-,9093	-3,5594	-,8898
	11	463	3,4428	1,1864	4,3197	,8982	-,8769		
	12	463	3,4600	1,2388	4,3672	,8992	-,9071		
	13	463	3,3585	1,0756	4,2246	,9148	-,8661		
Credibility	14	463	3,8186	,9723	4,3758	,8908	-,5572	-3,2246	-,5374
	15	463	3,9503	,9303	4,5443	,7824	-,5940		
	16	463	3,7343	1,0489	4,5659	,7613	-,8315		
	17	463	3,8596	1,0339	4,6328	,7917	-,7732		
	18	463	4,0238	,9078	4,4492	,8611	-,4255		
Empathy	19	463	3,4255	1,1312	3,4687	1,1800	-,0432	-3,0562	-1,0187
	20	463	3,3737	1,1644	4,3434	,8905	-,9698		
	21	463	3,6350	1,0904	4,5767	,7401	-,9417		
	22	463	3,1814	1,2731	4,3261	,9302	-1,1447		
						SUM			-4,0228
						SUM/5=SERVQUAL SCORE			-0,80456

* k: Number of statements composing dimension

This state indicates that students are not satisfied with service quality of colleges from which they receive e-MBA education. Moreover, it is an evidence that SERVQUAL scores estimated for service quality dimensions, -tangibles, reliability, responsiveness, credibility and empathy- are also subtractive and expectations for none of them were met. SERVQUAL scores calculated in the Table above are the values estimated without considering importance weight given by students to service quality dimensions. Service quality SERVQUAL score including importance weights given by students to dimensions is calculated as follows:

SERVQUAL SCORE= (Reliability*importance of reliability + Empathy*importance of empathy +credibility*importance of credibility + tangibles*importance of tangibles + responsiveness*importance of responsiveness) / Number of dimension.

In this calculation importance weight is expressed as percentage of importance that student give to a dimension.

Table 14. Weighted SERVQUAL Scores Table

	N	Weightless Average Gaps	Weighted Average Gaps	T	p (Sig.)
Tangibles	463	-,7759	-,138936	-14,840	,000
Reliability	463	-,8009	-,172147	-13,895	,000
Responsiveness	463	-,8898	-,176447	-15,538	,000
Credibility	463	-,5374	-,136350	-12,592	,000
Empathy	463	-1,0187	-,153139	-16,777	,000
TOTAL GAPS		-4,0228	-0,77702		
SERVQUAL SCORE		-0,80456	-0,1554		

Before assessing dimension SERVQUAL scores it was examined that whether or not the discrepancy between perceived and desired service for each dimension is significant, that is, whether or not the discrepancies are statistically valid. For this examination hypothesis “ H_0 : Gaps equal to “0”” was tested through the instrument of single sample t-test. As a result of t-tests it was found that gaps for all dimension were significant at level of $p(\text{sig.})=0,000$, that is discrepancies were non zero.

It was found that service quality scores estimated without regarding importance weights are = -0,80456, while servqual scores including importance weights are = -0,1554. Here the striking point is that results of both estimation are subtractive, meaning that expected service was not met. Next assessments were realized on the basis of weighted SERVQUAL scores.

Absolute value of SERVQUAL score approximation to zero implies an increased service quality. When partial SERVQUAL scores are examined, although service expectations were not met for five dimensions effecting service quality in the universities rendering e-MBA education, most dissatisfied dimension was responsiveness, followed in order by reliability, empathy, tangibles and credibility.

5. Conclusion And Suggestions

Today education system is faced with many problems, including falling behind developments and technology, lacking equipment, personnel and resource, scarcity of scientific researches, personnel having no skill and quality demanded by the system, education programs under efficiency standards. It is important to have educational organizations restructured and operated according to contemporary understanding of quality in order to find solutions to these problems and make education organizations efficient.

Today, in a globalized world where competition has increased and quality has gained importance over other factors such as price for national development it is crucial to reorganize education system conforming the quality standards so as to train people in accordance with demands of competition environment. For ensuring development and advancement in a country education system should be carefully protected and improved by following the developing and changing conditions.

Information technologies leading a reorganization of all institutional procedures have become one of the integral parts of education sector over time. Today computers and communication technologies are the factors which provide training education services unlike in 90’s when they were used as supportive devices in education service.

One of these education services is an Internet based distant learning model. This model basically is applied for two goals: First, to provide support service for traditional education programs and secondly, servicing education

programs over the web. In this framework Internet based distance education is considered among the most efficient and the best instruments to meet today's educational needs.

Distance education enables people to receive various certificates as well as associate, bachelor's, postgraduate and doctoral diplomas from foreign universities whilst staying at their country.

In service quality measurement literature it is the SERVQUAL method emerged as marketing research instrument that is the most common, most valid in its dimension structure and most reliable in terms of its internal consistence. Thanks to the SERVQUAL method it can be calculated to what extent each dimension and general service quality to have been affected by structural innovations and changes in services realized by enterprises rendering service. And in the light of this calculations it can be decided on vital and costly issues such as whether or not full-scale innovation or change is feasible.

If results show a low grade in quality, it must be looked for which dimension is the crux of the problem and to what extent and then improvement should be initiated starting with statement of minimum quality level in that related dimension. To be able to make improvements based on that statement, a customer-oriented service approach should be adopted and the best effort should be made. So, rise in the perception statements scores would lead to a rise in perceived service quality.

Service quality of distance education applications in education sector was examined including five quality determinants, tangibles, reliability, responsiveness, credibility and empathy. For five dimensions determining service quality and total service quality, discrepancies between expectation and perceptions of students were analysed regardless universities that render distance education. Discrepancies among scores that students rated for perceived and expected service for each were found statistically significant for each dimension.

When partial SERVQUAL scores are examined, although service expectations were not met for every five dimension effecting service quality in the universities rendering e-MBA education, most dissatisfied dimension was responsiveness, followed in order by reliability, empathy, tangibles and credibility. It can be said that students' perceptions of services are under their expectations. As survey results show, averages of overall expectations are higher than perceptions. It was found that expectations of survey participants were not met, leading to a dissatisfaction. And it is remarkable that dissatisfaction become more glaring especially as for the variables of responsiveness. Therefore, it is obvious that general perception is under general expectation, resulting in a dissatisfaction.

When the customer oriented approach, which is important in terms of modern marketing, is adapted to education service marketing, focal point appears to be is educational expectations of students, parents and society. Education institutions marketing educational services should specify the marketing mix strategies.

Service quality measurement is an opportunity for enterprises to accurately define their goals and correctly perceive needs of their customers accordingly to reshape their services. Moreover, measuring service quality allow for productive usage of operating assets.

Enterprises operating in education sector should work on increasing service quality. Therefore, it is necessary to employ and to train quality faculty members as the backbone of education system. It is also significant to empathize with students in order to understand their educational problems and to ensure that courses made just in time in accordance with the curriculum by well-made organization. Besides, employees should have enough knowledge and experience to meet the expectations students. Universities, especially at the stage of planning and executing the services, should form administrative and academic cadres in pursuant of defined quality targets. As a result, these adjustments increase educational service quality and student satisfaction.

In the light of these results, general perspective is under general expectation and there comes a dissatisfaction. In this case to enhance service quality and thus increase student satisfaction, it is obvious that sensitivity should be shown primarily to responsiveness. In this sense responsiveness is followed in order by reliability, empathy, tangibles and credibility. So students' expectations can be met by making necessary regulations starting with statements under responsiveness dimension. Faculty members should be available for students and provide every kind of consultancy about university and education program. Administrative staff should deal with students one

by one. Library staff should have competence to address the needs and demands of students. And then comes statements of reliability dimension to be treated. Courses should be heavily practice-oriented. A competitive environment should be provided for students. Students could find an educational climate with interactive relationships among themselves and with faculty members as well. Furthermore, elective courses should be included in programs. In order of importance statements of third dimension, empathy, should be examined to be used in career orientation by faculty members. Advisers should help students pursue education programs smoothly and inform them about job opportunities that program diploma/certificate would create. Tangibles, as fourth dimension, are a point on the basis of which distance education portal can be designed. Accordingly, distance education web pages should be attention-grabbing, clear and understandable and kept updated. Also, universities are to be responsible for safety of that distance education portal. Last dimension in order of importance is credibility. Examining statements under credibility dimension, necessary regulation should be made to meet students' expectations.

Demands and needs of students have critical place in designing and improvement of education systems. It would be one of the most important factors which higher education institutions would pay attention to in developing quality management system to determine students' expectations from higher education and measure the service quality by empathising with students. Related units of universities should examine thoroughly reasons and results of assessments made by students and accordingly produce solutions addressing negative assessments. These works should be made regularly and it should be monitored to what extent solution proposals could be realized. If regularly and continuously applied this and such like studies could be used by universities as important instruments in enhancing educational quality.

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