An Examination of Students' Perceptions of Service Quality Dimensions in Higher Education

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ABSTRACT There have been so many recent changes in the universities. These changes force these institutions to provide better service quality. This study purposed to evaluate detailed exploration of service quality in the higher education by the instrument of service quality, Higher Education Performance (HEd-PERF). The scale was administered to 576 students studying at the Yildiz Technical University to find out if there are any differences between gender and year of study in terms of students' perceptions of service quality dimensions. T-test results show that gender is a significant variable regarding students' perceptions of accessing service and physical facilities. The Scheffe's post-hoc test for multiple comparisons done reveal that the students' perceptions of service quality dimensions change over depending on the year of study.

INTRODUCTION

Higher education is not only a fast growing service industry but also getting more exposed to globalisation processes (Damme 2001; O'Neil and Palmer 2004). Service quality and emphasizing students' contentment has been a recently growing point of concern. Higher education providers who need to adapt techniques of measuring the quality of their services just like in the business sector are eagerly involved in understanding students' expectations and perceptions of service quality so as to captivate students, serve their needs and retain them (Donglic and Fazlic 2015; Grönroos 1984; Gummesson 1991; Orîndaru 2015; Vrana et al. 2015; Zeithaml et al. 1990).

Hennig-Thurau et al. (2001) suggested that educational services fall into the field of services marketing. Yet, Patterson and Johnson (1993) highlighted that service quality cannot be measured objectively because of the unique characteristics of services such as heterogeneity, continuity and perishability (Parasuraman 1986). According to Zeithaml et al. (1990), in the services literature, the focus is on recognized quality, which stems from the comparison of customer service expectations with their perceptions of actual performance.

Avdjieva and Wilson (2002) stated that quality initiatives have been the subject of many practitioners and academic discourse, and at various levels have found a system into higher education during the last decade. And, Cheng (1990) stressed that student satisfaction is often used to assess educational quality. As reported by Oldfield and Baron (2000) and Soutar and Mc-Neil (1996), the assumption of service quality, it's connection with the satisfaction and value constructs and methods of evaluation, have been a principal idea of the education sector over recent years.

Abdullah (2006) interpreted that checking the quality of service in higher education is getting more and more important. Generally, service quality supports customer satisfaction which in turn increases profitability, market share and return on investment (Barsky and Labagh 1992; Fornell 1992; Hackl and Westlund 2000; Halstead and Page 1992; LeBlanc 1992; Stevens et al. 1995), excites intention to return, and boosts recommendations (Nadiri and Hussain 2005). As a result of these, the higher education sector should understand the importance of service improvements in establishing a competing advantage (Nadiri et al. 2009).

Literature Review on Quality

According to Reid and Sanders (2005) the definition of quality depends on the role of the people who define it. Therefore, there is no single universal definition of quality. While some people define it as the performance to standards, others put it as meeting the customer's needs. Namely, when a product or service meets the targets and tolerances determined by its designers, it is evaluated fit. Quality is a dynamic state associated with product, services, people, process-

es, and environments that meet customer needs and expectations and expectations and help produce superior value (Goetsch and Davis 2014; Sallis 2014).

The Evolution of Total Quality Management (TQM)

Even though the meaning of the quality has changed over time, the concept of it has been in existence for many years. In this regard, quality management address inspecting products to ensure the quality in the early twentieth century. The concept took on a broader meaning in the 1960s and quality was viewed as something which circled both the entire organization and the production process with the help of so-called quality gurus. For the business environment, its meaning has changed seriously since 1970s because of the market loss of many U.S. industries. As the foreign competitors such as Toyota, Honda, Toshiba and Sony were producing lower-priced products with higher quality, companies had to make major changes in their quality programs so as to survive.

Since the 1970s, many companies have focused on improving quality so that they can be more competitive. Today, there is a new concept of quality which is called Total Quality Management (TQM). Contrary to the old concept of quality that is reactive, designed to correct quality problems after they occur, the new one is proactive, designed to build quality into the product and process design (Reid and Sanders 2005).

Quality Gurus

Deming, the father of quality control, stressed management's responsibility for quality by developing 14 Points to guide companies in quality improvement. While Juran defined quality as fitness for use, Feigenbaum introduced concept of total quality control. Crosby coined the phrase "quality is free" and introduced concept of zero defects. Kaoru Ishikawa contributed to development of the cause-and-effect diagrams and identified concept of internal customer. And, the last one is Genichi Taguchi who focused on product design quality (Reid and Sanders 2005).

In recent years, according to Prajogo and Sohal (2003), quality management has been accepted as one of the most important drivers of global competition. Prajogo and Sohal (2003),

Ahire et al. (1996) and Prabhu et al. (2000) tried to identify the impact of TQM implementation on firms' performances in industrialized countries. In developing countries, on the other hand, Arumugam et al. (2008) and Das et al. (2006) studied on identifying it. According to Punnakitikashem et al. (2010), TQM positively impacts firm performances depending on the degree of its implementation. Notwithstanding, Hansson and Klesj (2003) asserted that it is still dubious for many organizations.

Total Quality in Higher Education

There have been so many people who tried to translate the writings of quality gurus into practice by many higher education institutions in a number of countries (Hogg and Hogg 1995; Lewis and Smith 1997; Yorke 1997). Nonetheless, these studies have not achieved a consensus about how TQM should be applied in higher education. While Eriksen (1995) discussed TQM from a factory viewpoint, Yorke (1997) supposed that students will want to draw on higher education in much more of a bespoke basis, learning under circumstances that suit them rather than suit Ericksen's factory viewpoint.

According to Geddes (1993) and Clayton (1993), where there has been success in applying TQM in higher education, it appears to have been in the area of support services rather than in the primary activities of teaching and learning. Yorke (1997) claimed that where TQM is considered concerning classroom practice, this is often little more than the description of practices that would probably match expectations of good classroom teaching. He also said that the chance to locate the teaching in the wider educational context appears to be over passed.

Yorke (1997) explains that the quality of higher education is a complicated matter as it is not applied by a simple supplier/customer model. That is to say, the student is both a customer of provided services and a partner in the process of learning. As a result of the quality of the educational experience being influenced by a number of factors, he stressed that the student then achieves a profile of standards. And, it becomes what the employer perceives as the quality of the emerging student.

As highlighted that there are some features of TQM which have been selected for consideration for the reason that they cannot be translat-

ed word by word into the context of higher education. These are the identification of customers and their needs, managerial responsibility for setting the guiding philosophy for the organization, the authorization of staff at all levels to take responsibility for quality improvement, the setting of standards that demonstrate customer necessities, the preventing of error and the belittlement of variation, and the design and operation of systems for stage control.

The most important aspect of this discussion is how TQM relates to the methods of academics; internal servicing, though of conspicuous importance to the student learning experience which is both directly and indirectly, is merely given paying attention inasmuch as the basic business of a higher education institution relates academics to students and the outside world. The discussion is restrained further to the teaching of students; research and consultancy give rise to more sincere interactions with customers, and can be managed under the general literature referring to customer and contractor relationships.

As also stated that there are two leading types of customers for higher education. The first one is the outside world which draws on the knowledge of students and may also support them professionally, while the second one are the students themselves. In contrast, the students are not only customers but also active partners in their own development. There is an expanding agreement that learning activities demanding the active support of the student are more likely to be of benefit than those, such as lectures, in which it is easy for the student to follow a relatively inactive stance. According to the perspective of TQM, the higher education institution has to meet the needs of both students and external constituencies (Yorke 1997). Anim and Mensah (2015) and Weick (1976) highlighted that higher education institutions are inclined to be loosely coupled organizations and they are much more like federations than corporations. Also, Dearlove (1995) said that nearly all governments across the world have been looking at the higher education with regard to investment. Thus, they have been seeking the explicit return. Thanks to this, it can be seen from the demands that are being made that institutions be accountable to governments and their wider publics for what they do.

UNESCO (1995), higher education faces economic pressures and will find its future tough throughout the world. It is probably due to the fact that some traditional methods will need to change. Schein (1988) stated that there are five conditions which have to be met if the threat is to be completely wiped out. Yorke (1997) highlighted that a senior manager should be aware of the fact that there is a need for change and be ready to challenge old assumptions and to unfreeze the organization. He or she should initiate a convincing strategy for change, and have a clear vision of the future. Also, a senior manager should establish the identified changes.

It is a difficult thing for leaders to produce vision and mission statements that reveal the range of activities which are classic to higher education, other than an accepted tolerance displayed in the pursuit of a range of activities which are classic to higher education. There are many studies in the TQM literature of the empowerment of staff. For example, Oakland (1993) conveyed that TQM is connected with moving the core of control from outside the individual to within, the purpose being to be able to make everyone accountable for their own achievement, and to get them to be active in the attainment of quality in a highly motivated style.

According to Yorke (1997), academics are authorized in their work as teachers, researchers, and scholars. From TQM viewpoint, the issue may be that there is but a restricted concurrence regarding what is implied by the entirety of components and characteristics that give rise to quality. The previous consultation of quality displays how much the concept includes, ranging from the contentment of students in comparatively straightforward way to fulfilling needs of which they may not be completely aware.

Models for Measuring Service Quality in Higher Education

The importance of quality in the service industry has appealed to so many researchers, making them to experimentally examine service quality within a wide array of service context such as appliance repair, banking, and insurance according to the study of Parasuraman et al. (1985) and Zeithaml et al. (1990). Cronin and Taylor (1992) stated that discussion continues regarding how service quality should be evaluated. Parasuraman et al. (1985) developed SERVQUAL scale to measure service quality. One of the most disputed issues is the reliability of it. It has been

used to measure service quality in many institutions such as in business schools (Carman 1990), fast food services, banking, and dry cleaning (Cronin and Taylor 1992). Carman (1990) analysed the five extents of SERVQUAL by adding attributes that are suitable to various situations such as the fact that the failure rate is higher for colleges and universities than for business and government organisations (Cameron and Tschirhart 1992).

It is essential to study the meaning of service quality that pertains to the situation under study in measuring service quality in higher education. Analyses of the functional basis of service quality measurement have been conducted on the descriptions of quality in higher education (Lagrosen et al. 2004), service quality dimensions (Joseph and Joseph 1997; Owlia and Aspinwall 1996), perceived importance (Ford et al. 1999), service quality and customer satisfaction (Rowley 1997). Ford et al. (1993) have marked that SERVQUAL might evaluate students' perceptions regarding the quality of their educational institutions, but not the education itself, indeed. Student perceptions of service quality in higher education are researched using a performance-solely adaptation of the SERVQUAL research instrument (Oldfield and Baron 2000).

In spite of the development of the SERVQUAL model, Carman (1990), Cronin and Taylor (1992) and Parasuraman et al. (1985) have suggested that industry-specific service quality measures may prove more appropriate. Abdullah (2006) stated that SERVQUAL which is a generic measure of service quality may not be quite suitable for assessing perceived quality in higher education. He has also recognised that little has been done to analyse the determinants of service quality in higher education from the student's perspective. Therefore, the HEd-PERF model was developed by him. He explained that the aim of this model is to capture a context specific view of service quality in higher education. The instrument measures 41-items and each item have been tested for reliability and validity. Research findings prove that students' perceptions of service quality can be determined by evaluating six dimensions: non-academic aspects, academic aspects, reputation, access, programme issues and understanding.

Objectives

The main purpose of this study is to analyse students' perceptions of service quality at Yildiz Technical University, Istanbul. Accordingly, the answers of the following questions were researched:

1. Is there a significant difference in students' perceptions of service quality dimensions (non-academic aspect, academic aspect, reputation, access, diploma programs and physical facilities) between different classes?
2. Are there any significant differences in students' perceptions of service quality dimensions in terms of gender?

MATERIAL AND METHODS

Research Sample

This study was conducted in the 2014-2015 academic year with the participation of 576 volunteer students studying at Yildiz Technical University, Istanbul. The faculties from which the participants are: Faculty of Architecture, Faculty of Naval Architecture and Maritime, Faculty of Civil Engineering, Faculty of Chemical Metallurgical Engineering, Faculty of Mechanical Engineering, Faculty of Electrical and Electronics Engineering, Faculty of Arts and Sciences, Faculty of Economics and Administrative Sciences, Faculty of Education, and School of Foreign Languages. The distribution of the sample with respect to gender and classes is demonstrated in Table 1.

Table 1: The distribution of students according to gender and year of the study

Description	Number of respondents	Percentage of total sample
Year of Study		
Preparatory year	65	11.30
First year	200	34.78
Second year	113	19.66
Third year	91	15.83
Fourth year	106	18.43
Total	575	100.00
Gender		
Female	235	41.02
Male	338	58.98
Total	573	100.00

Data Collection Instrument

This study is based on survey design. Higher Education PERFormance (HEd-PERF) scale was used as the data collection instrument. It was constituted by Bektas and Akman (2013) and was based on a scale developed by Abdullah

(2006) to measure the quality of service offered to students in higher education. This scale concludes that it can evaluate detailed exploration of service quality in a higher education. It consists of a total of 28 items. Respondents were asked to rate their views on the service quality on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). The reliability coefficient (Cronbach's Alpha) of the scale was determined to be .91. Also, Cronbach's Alpha values of HEd-PERF dimensions ranged from .70 to .92. The reliability coefficient of the scale in this research is found to be .93.

Data Analysis

Data acquired by means of the application of HEd-PERF scale was analysed using independent samples T-test and one-way ANOVA via SPSS (Statistical Package for Social Sciences) 21.0 software programs. The analysis of independent samples T-test was used to define whether there were significant differences in students' views on the service quality of higher education in terms of gender. Also, the analysis of one-way ANOVA was administered to define whether were significant differences in students' views on the service quality in higher education in terms of their classes.

RESULTS AND DISCUSSION

This section talks about the percentage of results reached by analysing the participants' views on the service quality. Also, changes in students' perceptions of service quality dimensions (non-academic aspects, academic aspects, reputation, access, diploma programs and physical facilities) were analysed according to gender and classes. T-test was used to analyse whether there were significant differences in students' perceptions of service quality according

to their gender. Moreover, ANOVA test was used to determine if there were significant differences in their perceptions of service quality according to classes. A survey of the participants' comments on service quality are included in Table 2.

It is seen that the students' perceptions of service quality dimensions are above the average except for their perception of physical facilities according to the results given in Table 2. The students' perception of non-academic aspect of service quality rating (M=32.27), academic aspect rating (M=22.39), reputation dimension rating (M=9.32), access dimension rating (M=10.13) and diploma programs dimension rating (M=9.32) are above average. Yet, it was find out by the results that their physical facilities rating (M=7.65) is close to the average. Considering these results, it was revealed that the students' perception of service quality is positive and at medium level. Many researches conducted in different universities and in different departments are in line with this study's results. It was discovered that students were satisfied with their university service quality at medium level (Çavdar 2009; Eren et al. 2013; Eskicumali et al. 2015). It is focused on the students' perceptions of non-academic aspect of service quality according to their gender in Table 3.

As it is observed in Table 3, there is no significant difference between students' perception of non-academic aspect of service quality in terms of their gender (t=-1.44; p>.05). According to this finding, it can be suggested that gender is not a significant variable on students' perception of non-academic aspect of service quality. There is no significant difference between students' perceptions of academic aspect of service quality in terms of their gender (t=.67; p>.05) according to results in Table 3. In accordance with this finding, it can be said that gender is not a significant variable on students' perceptions of academic aspect of service quality. It can be seen that there

Table 2: Descriptive statistics of the students' perceptions of the service quality

Dimensions	Number of respondents	Minimum	Maximum	Mean	Standard deviation
Non-Academic	576	10.00	50.00	32.27	7.89
Academic	576	6.00	30.00	22.39	4.97
Reputation	576	3.00	15.00	9.32	3.14
Access	576	3.00	15.00	10.13	2.56
Diploma Programs	576	3.00	15.00	9.32	2.66
Physical Facilities	576	3.00	15.00	7.65	3.09
Total	576	28.00	140.00	91.01	17.46

Table 3: The findings of the students' perceptions of service quality's sub-dimensions according to their gender

Dimensions	Gender	Number of respondents	Mean	Standard deviation	Degrees of freedom	t	p
Non-Academic	Female	235	31.67	7.65	571	-1.44	.15
	Male	338	32.63	8.05			
Academic	Female	235	22.55	3.75	571	.67	.50
	Male	338	22.27	5.66			
Reputation	Female	235	9.19	2.84	571	-.86	.39
	Male	338	9.42	3.34			
Access	Female	235	10.40	2.36	571	2.07	.03
	Male	338	9.95	2.69			
Diploma Programs	Female	235	9.30	2.44	571	-.16	.86
	Male	338	9.34	2.82			
Physical Facilities	Female	235	7.31	2.94	571	-2.15	.03
	Male	338	7.87	3.17			

* The mean difference is significant at the .05 level

is no significant difference between students' perceptions of reputation dimension of service quality in terms of their gender (t=-.86; p>.05) in Table 3. In keeping with this finding, it can be suggested that gender is not a significant variable on students' perceptions of reputation dimension of service quality.

According to the t-test results in Table 3, the female students' arithmetic mean is 10.40 for the access dimension; male students' arithmetic mean is 9.95, which indicate that there is a difference in favour of female students (t=2.07; p<0.05). Regarding this analysis, it can be said that gender is a significant variable on students' perceptions of access dimension of service quality.

It can also be said that there is no significant difference between students' perceptions of diploma programs dimension of service quality in terms of their gender (t=-.16; p>.05) according to the data in Table 3. In view of this finding, it can be suggested that gender is not a significant variable on students' perceptions of diploma programs dimension of service quality.

The t-test results of students' perceptions of physical facilities dimension of service quality in terms of their gender are included in Table 3. According to the results, the female students' arithmetic mean is 7.31; male students' arithmetic mean is 7.87, which indicates that there is a difference in favour of male students (t=-2.15; p<0.05). It can be said that gender is a significant variable on students' perceptions of physical facilities dimension of service quality with respect to this analysis.

Females and males have various needs. As a result of this, Twaissi and Al-Kilani (2015) highlighted that they are supposed to perceive ser-

vice quality in a different manner. For instance, according to researches of Snipes et al. (2006) and Shi et al. (2015), females consider it more crucial than males. And this study's findings show that physical facilities dimension is more important for males while access dimension is more important for females to assess the service quality of higher education. Yet, Okumus and Duygun (2008) and Güzel-Sahin (2011) found out that there was no significant difference in service quality in higher education in terms of gender.

One-way ANOVA test was conducted to determine if there was a significant difference in the students' perceptions of service quality dimensions was according to their classes. The descriptive statistics of the students' perceptions of non-academic aspect of service quality according to their classes are demonstrated in Table 4.

As seen in Table 4, it is observed that there is a significant difference in the students' perceptions of non-academic aspect of service quality according to their classes (F=3.87; p<.05). The result of the ANOVA test demonstrates that class differentiation affected their perceptions of non-academic aspect. It is also confirmed that there were differences between groups. According to the data in Table 4, it is also noticed that there is no significant difference in the students' perceptions of academic aspect of service quality according to their classes (F=2.05; p>.05). The ANOVA test's result indicates that class differentiation did not affect their perceptions of academic aspect. It is also confirmed that there is no differences between groups.

Table 4: The descriptive statistics of the students' perceptions of the dimensions of service quality according to their classes

Dimensions	Groups	Sum of squares	Degrees of freedom	Mean	F	p
Non-academic	Between groups	947.67	4	236.92	3.87	.00*
	Within groups	34870.69	570	61.18		
	Total	35818.36	574			
Academic	Between groups	201.84	4	50.46	2.05	.08
	Within groups	14011.76	570	24.58		
	Total	14213.59	574			
Reputation	Between groups	195.51	4	48.88	5.08	.00*
	Within groups	5479.71	570	9.61		
	Total	5675.22	574			
Access	Between groups	137.88	4	34.47	5.39	.00*
	Within groups	3643.54	570	6.39		
	Total	3781.42	574			
Diploma Programs	Between groups	130.37	4	32.59	4.70	.00*
	Within groups	3949.8	570	6.93		
	Total	54080.22	574			
Physical Facilities	Between groups	51.75	4	9.50	1.36	.24
	Within groups	5412.16	570	1027.49		
	Total	5463.91	574			

* The mean difference is significant at the .05 level

It is seen that there is a significant difference in the students' perceptions of reputation dimension of service quality according to their classes (F=5.08; p<.05) in Table 4. The test's result displays that class differentiation influenced their perceptions of reputation dimension. It is also supported that there were differences between groups. There is a significant difference in the students' perceptions of access dimension of service quality according to their classes (F=5.39; p<.05), which is demonstrated in Table 4. The result of the ANOVA test presents that class differentiation influenced their perceptions of access dimension. It is approved that there were differences between groups.

There is a significant difference in the students' perceptions of diploma programs dimension of service quality according to their classes (F=4.70; p<.05) according to the data in Table 4. The ANOVA test's result indicates that class differentiation affected their perceptions of diploma programs dimension. It is accepted that there are differences between the groups. As it is observed in Table 4, there is no significant difference in the students' perceptions of physical facilities dimension of service quality according to their classes (F=1.36; p<.05). The ANOVA test's result shows that class differentiation did not affect their perceptions of physical facilities dimension. It is confirmed that there was no differences between groups.

Many studies' results indicated that students' perceived service quality in higher education were significantly different in terms of class level (Eskicumali et al. 2015; Yilmaz et al. 2007). Clemes et al. (2007) explained students' perceptions of service quality dimensions can be affected by their year of study. And also, Clemes et al. (2001) suggested that to develop appropriate service quality strategies, researchers must take it into consideration. In this study, owing to ANOVA test results, it was concluded that there were significant differences in the students' perceptions of non-academic aspect (F=3.87; p<.05), reputation dimension (F=5.08; p<.05), access dimension (F=5.39; p<.05), and diploma programs dimension (F=4.70; p<.05) of service quality according to their classes. To find out the significant differences from which classes arise, the Scheffe's post-hoc test was conducted. The Scheffe's test results shows there are significant differences between preparatory and second classes (p=.02, p<.05), preparatory and third classes (p=.01, p<.05) within non-academic aspect. And, it is determined there are significant differences between first and second classes (p=.02, p<.05), first and fourth classes (p=.02, p<.05) in reputation dimension. Also, within access dimension, there is a significant difference between first and fourth classes (p=.00, p<.05). Moreover, there is a significant difference be-

tween first and second classes (p=.01, p<.05) within diploma programs dimension.

CONCLUSION

There are massive changes such as competition among higher institutions and internationalization in the higher education market of our times. They are a sign that students' perception of service quality in higher education must be given much attention. Because of this, it was sought to reveal students perception of service quality dimensions in terms of their gender and classes using HEd-PERF scale in this study.

The results of this study demonstrate that there was no significant difference between students' perception of non-academic and academic aspect, reputation, and diploma programs dimensions of service quality in terms of their gender. Nevertheless, there were significant differences between students' perception of access and physical facilities dimensions of service quality in terms of their gender. While access dimension is more important for females than males, physical facilities dimension is more important for males to assess the service quality of higher education. As a consequence of these, it can be inferred that gender is not a significant variable on students' perceptions of non-academic and academic aspect, reputation, and diploma programs dimensions of service quality. Yet, it is a significant variable on their perceptions of access and physical facilities dimensions of service quality.

The ANOVA test' results show that there were significant differences in the students' perceptions of non-academic aspect, reputation, access, and diploma programs dimensions of service quality according to their classes. The results of the Scheffe's post-hoc test which was made   by looking at the test results of ANOVA indicates that there were significant differences between preparatory and second classes, preparatory and third classes within non-academic aspect. And it was found out that there were significant differences between first and second classes, first and fourth classes in reputation dimension. Also, there was a significant difference between first and fourth classes within access dimension. In addition to these, there was a significant difference between first and second classes within diploma programs dimension. That is to say, the students' perceptions of dimensions of service quality change over a period of study.

RECOMMENDATIONS

The recommendations reached through this research are as followed:
- Leaders of higher education should make all service be accessible for all students at any part of their institutions.
- Higher education service providers should make needs-analysis to provide quality service for all students.

LIMITATIONS

This study has some limitations; it is limited to one higher educational institute. Because of this, it would need to be validated by further research. Future studies may need to apply the measurement instrument in other countries and in other universities. Also in this research, the overall level of students' satisfaction was the only target. However, parents are accepted as the stakeholders of education. Thanks to this, further researches may be used to measure parents' satisfaction as well.

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REFERENCES

Abdullah F 2006. Measuring service quality in higher education: Three instruments compared. *International Journal of Research & Method in Education,* 29(1): 71-89.

Ahire S, Waller M, Golhar D 1996. Quality management in TQM versus Non-TQM firms: An empirical investigation. *International Journal of Quality & Reliability Management,* 13(8): 8-27.

Anim SK, Mensah J 2015. Service quality in higher education: A comparative study in tertiary institutions in Sub Saharan Africa. *Global Journal of Educational Studies,* 1(2): 24-44.

Arumugam V, Ooi K, Fong T 2008. TQM practices and quality management performance: An investigation of their relationship using data from ISO 9001: 2000 firms in Malaysia. *The TQM Journal,* 20(6): 636-650.

Avdjieva M, Wilson M 2002. Exploring the development of quality in higher education. *Managing Service Quality,* 12(6): 372-383.

Barsky JD, Labagh R 1992. A strategy for customer satisfaction. *Cornell Hotel and Restaurant Administration Quarterly,* 35(3): 32-40.

Bektas H, Akman S 2013. Yüksek ögretimde hizmet kalitesi ölçegi: Güvenilirlik ve geçerlilik analizi. *Istanbul Üniversitesi Iktisat Fakültesi Ekonometri ve Istatistik Dergisi,* 18: 116-133.

Cameron KS, Tschirhart M 1992. Post-industrial environments and organizational effectiveness in colleges and universities. *Journal of Higher Education,* 63(1): 87-108.

Carman JM 1990. Consumer perceptions of service quality: An assessment of the SERVQUAL dimensions. *Journal of Retailing,* 66(1): 33-35.

Cheng YC 1990. Conception of school effectiveness and models of school evaluation: A dynamic perspective. *Education Journal,* 18(1): 47-62.

Clayton M 1993. Towards total quality management in higher education at Aston University. *Higher Education,* 25(3): 363-371.

Clemes MD, Gan CEC, Kao T 2007. University student satisfaction: An empirical analysis. *Journal of Marketing for Higher Education,* 17(2): 292-325.

Clemes MD, Ozanne LK, Tram L 2001. An examination of students' perceptions of service quality in higher education. *Journal of Marketing for Higher Education,* 10(3): 1-19.

Cronin JJ, Taylor SA 1992. Measuring service quality: A re-examination and extension. *Journal of Marketing,* 56(3): 55-68.

Damme D 2001. Quality issues in the internationalization of higher education. *Higher Education,* 41(4): 415-441.

Das A, Paul H, Swierczek FW 2006. A measurement instrument for TQM implementation in the Thai manufacturing industry. *International Journal of Innovation and Technology Management,* 3(4): 1-17.

Dearlove J 1995. Collegiality, managerialism and leadership in English Universities. *Tertiary Education and Management,* 1(2): 161-169.

Donlagic S, Fazlic S 2015. Quality assessment in higher education using the SERVQUAL model. *Management,* 20(1): 39-57.

Eren D, Özgül E, Çullu-Kaygisiz N 2013. Lisans düzeyinde turizm egitimi alan ögrencilerin egitim memnuniyetlerinin belirlenmesi: Nevsehir Üniversitesi Örnegi. *Sosyal Bilimler Enstitüsü Dergisi,* 35(2), 15-27.

Ericksen SD 1995. TQM and the transformation from elite to a mass system of higher education. *Quality Assurance in Education,* 3(1): 14-29.

Eskicumali A, Demirtas Z, Arslan S, Yarar I 2015. Investigating university students' level of service quality in higher education. *The Online Journal of Quality in Higher Education,* 2(2): 95-100.

Ford JB, Joseph M, Joseph B 1999. Importance-Performance analysis as a strategic tool for service marketers: The case of service quality perceptions of business students in New Zealand and the USA. *Journal of Services Marketing,* 13(2): 171-186.

Fornell C 1992. A national customer satisfaction barometer: The Swedish experience. *Journal of Marketing,* 56(1): 6-21.

Geddes T 1993. The total quality initiative at South Bank University. *Higher Education,* 25(3): 341-361.

Goetsch D L, Davis S 2014. *Quality Management for Organizational Excellence,* 6th edition, US: Pearson Publishing.

Grönroos C 1984. A service quality model and its marketing implications. *European Journal of Marketing,* 18(4): 36-44.

Gummesson E 1991. Truths and myths in service quality. *Journal for Quality and Participation,* 14(4): 28-33.

Güzel-Sahin G 2011. Üniversite düzeyinde turizm egitiminde hizmet kalitesi beklenti ve algisina yönelik Ankara'da bir arastirma. *Isletme Arastirmalari Dergisi,* 3(4): 49-65.

Hackl P, Westlund AH 2000. On structural equation modelling for customer satisfaction measurement. *Total Quality Management,* 11(4/5/6): 820-825.

Halstead D, Page TJ 1992. The effects of satisfaction and complaining behaviour on consumers' repurchase behaviour. *Journal of Satisfaction, Dissatisfaction and Complaining Behaviour,* 5(1): 1-11.

Hansson J, Kelfsj B 2003. A core value model for implementing total quality management in small organisations. *The TQM Magazine,* 15(2): 71-81.

Hennig-Thurau T, Langer MF, Hansen U 2001. Modelling and managing student loyalty: An approach based on the concept of relationship quality. *Journal of Service Research,* 3(4): 331-344.

Hogg RV, Hogg MC 1995. Continuous quality improvement in higher education. *International Statistical Review,* 63(1): 35-48.

Joseph M, Joseph B 1997. Service quality in education: A student perspective. *Quality Assurance in Education,* 5(1): 15-21.

Lagrosen S, Sayyed-Hashemi R, Leitner M 2004. Examination of the dimensions of quality in higher education. *Quality Assurances in Education,* 12(2): 61-69.

LeBlanc G 1992. Factors affecting customer evaluation of service quality in travel agencies: An investigation of customer perceptions. *Journal of Travel Research,* 30(4): 10-16.

Lewis RG, Smith DH 1997. Why quality improvement in higher education. *International Journal,* 1(2).

Nadiri H, Hussain K 2005. Perceptions of service quality in North Cyprus hotels. *International Journal of Contemporary Hospitality Management,* 17(6): 469-480.

Nadiri H, Kandampully J, Hussain K 2009. Students' perceptions of service quality in higher education. *Total Quality Management,* 20(5): 523-535.

Okumus A, Duygun A 2008. Egitim hizmetlerinin pazarlanmasinda hizmet kalitesinin ölçümü ve algiilanan hizmet kalitesi ile ögrenci memnuniyeti arasindaki iliski. *Anadolu Üniversitesi Sosyal Bilimler Dergisi,* 8(2): 17-38.

Oldfield BM, Baron S 2000. Student perceptions of service quality in a UK University Business and Management Faculty. *Quality Assurance in Education,* 8(2): 85-95.

O'Neil MA, Palmer A 2004. Importance-performance analysis: A useful tool for directing continuous quality improvement in higher education. *Quality Assurance in Education,* 12(1): 39-52.

Orîndaru A 2015. Changing perspectives on students in higher education. *Procedia Economics and Finance*, 27: 682-691.

Owlia MS, Aspinwall EM 1996. A framework for the dimensions of quality in higher education. *Quality Assurance in Education,* 4(2): 12-20.

Parasuraman A 1986. Customer-orientated organizational culture: A key to successful services marketing. In: M Venkatesan, DM Schmalensee, C Marshall (Eds.): *Creativity in Services Marketing: What's New, What Works, and What's Developing*? Chicago: American Marketing Association.

Parasuraman A, Zeithaml VA, Berry LL 1985. A conceptual model of service quality and its implications for future research. *Journal of Marketing,* 49(4): 41-50.

Patterson PG, Johnson LW 1993. Disconfirmation of expectations and the gap model of service quality: An integrated paradigm. *Journal of Satisfaction, Dissatisfaction and Complaining Behaviour,* 6(1): 90-99.

Prabhu V, Appleby A, Yarrow D 2000. The impact of ISO 9000 and TQM on best practice/performance. *The TQM Magazine,* 12(2): 84-92.

Prajogo D, Sohal A 2003. The relationship between TQM practices, quality performance, and innovation performance: An empirical examination. *International Journal of Quality & Reliability Management,* 20(8): 901-918.

Punnakitikashem P, Laosirihongthong T, Dotun A, Michael WM 2010. A study of quality management practices in TQM and non-TQM firms: Findings from the ASEAN automotive industry. *International Journal of Quality & Reliability Management,* 27(9): 1021-1035.

Reid RD, Sanders NR 2005. *Operations Management.* 2nd Edition. Wiley Publishing.

Rowley J 1997. Beyond service quality dimensions in higher education and towards a service contracts. *Quality Assurance in Education,* 5(1): 7-14.

Sallis E 2014. *Total Quality Management in Education*, 3rd Edition. London and New York: Ruthledge.

Schein E 1988. *Organizational Culture and Leadership*. San Francisco: Jossey-Bass.

Shi W, Drzymalski J, Guo J 2015. Measuring college student satisfaction: Analysing interactions among student attributes. Proceedings of the 2014 Industrial and Systems Engineering Research Conference.

Snipes RL, Thomson NF, Oswald SL 2006. Gender bias in customer evaluations of service quality: An empirical investigation. *Journal of Services Marketing,* 20(4): 274-284.

Soutar G, McNeil M 1996. Measuring service quality in a tertiary institution. *Journal of Educational Administration,* 34(1): 77-82.

Stevens P, Knutson B, Patton M 1995. DINESERV: A tool for measuring service quality in restaurants. *The Cornell Hotel and Restaurant Administration Quarterly,* 36(2): 56-60.

Twaissi NM, Al-Kilani MH 2015. The Impact of perceived service quality on students' intentions in higher education in a Jordanian Governmental University. *International Business Research,* 8(5): 81-92.

UNESCO 1995. *Policy Paper for Change and Development in Higher Education,* Paris: UNESCO.

Vrana VG, Dimitriadis SG, Karavasilis GJ 2015. Students' perceptions of service quality at a Greek higher education institute. *International Journal of Decision Sciences, Risk and Management,* 6(1): 17-29; DOI: 10.1504/IJDSRM.2015.072770

Weick KE 1976. Educational organizations as loosely-coupled systems. *Administrative Science Quarterly,* 22(1): 1-19.

World Bank 1994. *Higher Education: The Lessons of Experience,* Washington, DC.

Yorke M 1997. The elusive quarry: Total quality in higher education. *Tertiary Education and Management,* 3(2): 145-156, DOI: 10.1080/13583883.1997.9966917

Zeithaml V, Parasuraman A, Berry L 1990. *Delivering Quality Service: Balancing Customer Perceptions and Expectations.* New York: The Free Press.