

Service Quality, Students' Satisfaction and Supportive Attitude in the Higher Education Institutions: Evidence from an Emerging Market

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Abstract

The higher education sector has been growing steadily in all over the world. Similar improvements are experienced in Turkey. Growing number of higher education institutions cause growing competition. Thus these institutions are in need of developing their service quality level and satisfying the students. Higher education institutions need support from their students. Supportive attitudes of students may make a big contribution to these institutions. Thus it is significant for higher education institutions to create students' supportive attitudes. The aim of the study is to investigate the higher education institutions' service quality and its impact on student's satisfaction and supportive attitude in Turkey, as an emerging market. A total of 610 students in two universities in Adana, Turkey attended to present study. Descriptive analysis was done at the first stage, reliability analysis at the second stage as well. Confirmatory Factor Analysis was then employed. Finally Structural Equation Modelling was applied to examine the hypothesized model. It is concluded that service quality has a significant and positive effect on students' satisfaction and indirectly on students' supportive attitude through the students' satisfaction path.

Keywords: *Higher education institutions, Service quality, Student satisfaction, Supportive attitude, Higher education marketing*

Yükseköğretim Kurumlarında Hizmet Kalitesi, Öğrencilerin Memnuniyeti ve Destekleyici Tutum: Gelişmekte Olan Bir Pazar Örneği

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Öz

Yükseköğretim sektörü tüm dünyada istikrarlı bir şekilde büyümektedir. Türkiye’de de benzer gelişmeler yaşanmaktadır. Artan sayıda yükseköğretim kurumu, rekabetin de artmasına neden olmaktadır. Bu nedenle, bu kurumların hizmet kalitesi seviyelerini geliştirmeye ve öğrencilerini tatmin etmeye ihtiyaçları vardır. Ayrıca yükseköğretim kurumlarının öğrencileri tarafından desteklenmeleri gerekir. Öğrencilerin destekleyici tutumları bu kurumlara büyük katkı sağlayabilir. Bu nedenle, yükseköğretim kurumlarının öğrencilerin destekleyici tutumlarını oluşturması önemlidir. Dolayısıyla çalışmanın amacı, yükselen bir pazar olarak Türkiye’deki, yükseköğretim kurumlarının hizmet kalitesini ve onun öğrenci memnuniyeti ve destekleyici tutum üzerindeki etkisini araştırmaktır. Çalışmaya Adana’daki iki üniversiteden toplam 610 öğrenci katıldı. Öncelikle tanımlayıcı istatistikler, ikinci aşamada da güvenilirlik analizi yapılmıştır. Daha sonra Doğrulayıcı Faktör Analizi kullanılmıştır. Son olarak, hipotez testleri için Yapısal Eşitlik Modellemesi uygulanmıştır. Hizmet kalitesinin, öğrencilerin memnuniyeti üzerine doğrudan ve öğrencilerin memnuniyeti vasıtasıyla onların destekleyici tutumları üzerinde dolaylı olarak önemli ve olumlu bir etkisi olduğu sonucuna varılmıştır.

Anahtar Kelimeler: Yükseköğretim kurumları, Hizmet kalitesi, Öğrenci memnuniyeti, Destekleyici tutum, Yükseköğretim pazarlaması

Introduction

Today higher education is organized in a good way all over the world (Hemsley-Brown and Oplatka, 2006). The higher education sector has been growing steadily in all over the world year by year. Webometric Ranking, which was officially launched in 2004, included more than 27000 higher education institutions worldwide in 2018 (Webometrics, 2018). Additionally different sources recommend different numbers about the higher education institutions worldwide currently. Similar improvements are experienced in emerging markets as well. For instance, according to Council of Higher Education in Turkey (www.yok.gov.tr), the number of higher education institutions enhanced from 71 in 1998 to 186 in 2018. Growing numbers caused growing competition. Thus the related sector has become increasingly competitive today. In the line with the increasing competition, the marketers and higher education institutions are forced to achieve greater success. If higher education institutions have an ascendant process to effectively utilize their assets in order to achieve their desired performance, they can be competitive.

Market factors such as increased competition and, students acting as customers force higher education institutions to stand out from competitors and serve excellent customer experience. Indeed, universities acknowledge students as customers. They struggle to provide a perfect customer experience during the student life (Hanover Research, 2016). One of the key indicator of the higher education performance is service quality which provides significant information and feeling to customers. Competitive advantage in higher education sector can be gained by perfect perceived quality (Sumaedi et al., 2012). Moreover a lot of studies demonstrated that service quality has a positive effect on customer satisfaction in higher education sector (Stodnick and Rogers, 2008; Malik et al., 2010; Farahmandian et al., 2013; Wei and Ramalu, 2011; Sumaedi et al., 2011). Furthermore, students' supportive attitude, which typifies the student's dependence to and portraying with the higher education institution, is also important indicator (Sung and Yang, 2008). But limited number of research in higher education sector is concentrated on student's supportive attitude, which may ultimately pioneer to supportive

behavior (Athiyaman, 1997; Sung and Yang, 2008; Stephenson and Yerger, 2015). In this respect, student's supportive attitude research is required.

Based on an in-depth review of relevant literature, it can be assumed that there is a potential interesting topic of research. Therefore, the aim of the study is to investigate the higher education institutions' service quality and its impact on student's satisfaction and supportive attitude in Turkey, as an emerging market. First, a short foundation is provided about the relevant literature on important notional topics in this study. Thereafter, materials and methods are offered. Analyses and results are presented. Finally conclusion and discussion of the study's findings are provided.

2. Literature review

In this section, the relevant literature is briefly reviewed on the concepts of service quality, students' satisfaction and supportive attitudes.

2.1. Service Quality

Service quality may be defined as the distinctness among consumers' perceptions related with services provided by a specific company and their expectations about this services (Parasuraman et al., 1988). Higher education institutions (HEIs) make an effort to understand students' evaluations of service quality in order to captivate students, keep them and meet their needs (Nadiri et al., 2009). There is an understandably high attention about quantification of service quality. Thus, firms use strategy based on serving higher levels of service quality to position them effectually in the market (Cronin and Taylor, 1992). A lot of efforts concentrated on dimensionalities of service quality developed scales to measure the quality over the last four decades or so (Sultan and Wong, 2010). Some of the related scales are Grönroos model (Grönroos, 1984), service quality (SERVQUAL) (Parasuraman et al., 1985), service performance (SERVPERF) (Cronin and Taylor, 1992), and higher education performance (HEdPERF) (Abdullah, 2005). Among these scales, HEdPERF is a relatively new issue. Additionally, the SERVQUAL scale is

more well-liked than the SERVPERF scale (Kwan and Ng, 1999; Tan and Kek, 2004; Stodnick and Rogers, 2008; Yousapronpaiboon, 2014; Galeeva, 2016). Thus, the study focused on SERVQUAL within the scope of higher education (HE).

A lot of dimensions were utilised in number of studies which focused on service quality in HE (e.g., Hill, 1995; Kwan and Ng, 1999; Tan and Kek, 2004). For instance Hill (1995) proposed 14 dimensions to gauge the students' service quality evaluation which involve library facilities, housing services, occupation services, advisory services, health services etc. Revised SERVQUAL scale (Parasuraman et al., 1988) conceptualizes service quality as an evaluation on a number of 22 items in 5 dimensions. These dimensions are identified and accepted in the context of HE.

2.2. Students' Satisfaction

The satisfaction performs a vital status in the determining the individuality and trueness of educational system (Malik et al., 2010:2). A lot of satisfaction definitions appear in the literature. Based on Oliver (1980:461), satisfaction is an evaluation of customer expectation and confirmation. The antecedents of customer satisfaction in classical context are well documented (Oliver, 1980; Anderson and Sullivan, 1993), while satisfaction literature related to HE is developed, inspired by classical aspect (Elliott and Shin, 2002). Within the context of HE, following Elliott and Shin (2002) student satisfaction can be defined as *"the favorability of a student's subjective evaluation of the various outcomes and experiences associated with education"*. In the literature, two satisfaction types are described (Lam et al., 2004). Overall satisfaction takes into account the sequence of transaction or service encounter (Oliver, 1980). Therefore overall satisfaction is more fundamental performance indicator than transaction specific satisfaction (Lam et al., 2004). Thereupon present study focuses on overall satisfaction in HEIs.

Students' transaction or service encounter with a HEI may impact students' satisfaction (DeShields et al., 2005). In this context HEIs may identify and meet students' needs and expectations to create this experience (Schertzer and Schertzer, 2004). It is also significant to link with the student's expectations and the HEI's talent to meet the student's expecta-

tions (DeShields et al., 2005). Thus the HEIs can attract and retain students (Schertzer and Schertzer, 2004). Satisfied students can captivate others via positive WOM and persuade them to continue their education at different levels (Voss et al., 2007). Additionally if a HEI increases the level of students' satisfaction, it may increase the students' ability, understanding and mindset (Malik et al., 2010). There are studies which show that student satisfaction may also have positive impact on students' motivation, retention, operating efforts and collecting (Schertzer and Schertzer, 2004). On the contrary, there are studies which show that student dissatisfaction may have undesired consequences for both the HEI and the student, namely failed students, resignation or transferring, and negative WOM (Alves and Raposo, 2007). Consequently, it is important for HEIs to satisfy their students in order to get positive outputs.

2.3. Students' Supportive Attitude

Students' identification related with HEI is characterized as a particular style of social identification. The identification arise from the student feeling of belonging and unity with a particular HEI, its activities and employees (Wilkins and Huisman, 2013). Through this identification, students perceive themselves as being linked with the HEI. So HEI's successes and failures may be perceived as their own successes and failures (Jiménez-Castillo et al., 2013). Students' identification related with HEI enables students to improve their self-concept or self-image associated with the HEI. If students exceedingly identify with the HEI, they will be more self-dedicated and act beyond their role. Thus, student identification ensures an occasion for the HEIs to enhance a long-lived relationship with the student (Balaji et al., 2016). Students' identification toward the HEI then drives supportive behaviors and attitudes (Stephenson and Yerger, 2014). HEIs are in need of support from their students, because they typify the future alumni who may make contribution to the HEI with their willing services and donation (Kim et al., 2010). In addition, supportive students can adopt attitudes which can lead positive behaviors like presenting the HEI to external publics. Thus it is important to get support from current students.

Sung and Yang (2008) supposed that students' supportive attitude reflects the student's dependence to and portraying with the HEI. Moreover supportive behaviors in HEIs consist of defense intentions, HEI affiliation, suggestions for progression, and attendance in future activities (Balaji et al., 2016). Due to potential difference between supportive behavior and attitude, present study focuses on students' supportive attitude. Especially before the graduation, it is necessary to bring supportive attitude in order to be able to obtain all these positive outputs.

3. Methodology

3.1. Research Model

Research model is indicated in Figure 1 to examine service quality, students' satisfaction and supportive attitude in HEIs.

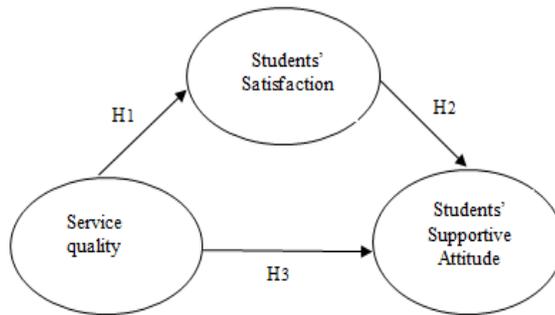


Figure 1. The research model

3.2. Hypotheses development

Service quality and Students' satisfaction

Satisfied students come into existence with a positive HEI experience. This standpoint has mindset to become market-oriented organization which satisfies its customers (DeShields et al., 2005). Service quality likewise students' satisfaction are also two separate constructs. Majority

of research view service quality dimensions as antecedents of satisfaction in HEIs (Al-Alak, 2006; Hasan and Ilias, 2008; Stodnick and Rogers, 2008; Malik et al., 2010; Sumaedi et al., 2011; Wei and Ramalu, 2011; Jiewanto et al., 2012; Farahmandian et al., 2013). The literature suggests that several service quality dimensions influence students' satisfaction. The extant literature strongly supports a positive impact of service quality on students' satisfaction. But different dimensions of service quality show different levels of relationships with students' satisfaction in the literature. There are no dimension specific hypotheses in this study, regardless of the fact that there may be the relative impacts of different service quality dimensions on students' satisfaction. Thereupon, the suggested hypothesis:

H1. Service quality directly and positively affects students' satisfaction.

Students' satisfaction and Supportive attitude

Along with service quality, students' satisfaction and supportive attitude has been considered in the context of HE. Limited number of research has begun to explore external prestige (Sung and Yang, 2008), university identification (Kim et al., 2010), student-HEI relational outcomes (Sung and Yang, 2009) and, satisfaction (Stephenson and Yerger, 2014; Stephenson and Yerger, 2015) etc. as an antecedent of students' supportive attitudes or behaviors. Moreover there have been very few studies which have empirically tested the unilateral effect of students' satisfaction on supportive attitudes or behaviors. Ki and Hon (2007) empirically supported that satisfaction of public with the firm have effect on public's supportive attitude with this firm. Therefore students' satisfaction with the HEI as an organization is important construct for the difficulties to gain support from them. Because of the fact that dissatisfied students may be more likely to search for alternative HEI and switch to another HEI, students' satisfaction can be viewed as antecedents of students' supportive attitude. Thereupon, the suggested hypothesis:

H2. Students' satisfaction directly and positively affects students' supportive attitude.

Students' satisfaction and supportive attitude

Sung and Yang (2009) suggested that to encourage students' supportive behavior, HEIs have to enhance a sincere relationship with their students. They also claimed that there are links among service quality of education and output like commitment, satisfaction, trust and, control mutuality. The impact of students' educational experience on these outputs with the HEI was positive and significant. Moreover Hennig-Thurau, Langer and, Hansen (2001) demonstrated the link among the quality of HEI and the students' loyalty. There are two different perspectives of loyalty including both attitudinal and behavioral aspects. Therefore these links may imply that a students' perceived service quality can engender positive attitudes and lead to supportive behaviors. Although there is no observed direct evidence in the literature, there can be a potential link between these two constructs. Thereupon, the suggested hypothesis:

H3. Service quality directly and positively affects students' supportive attitude.

3.3. Measurement

Questionnaire was used to measure the research constructs using multiple-item scales. Present study's measurement scales were all chosen from former studies. The proper scales were chosen for the purposes of this study. Present study particularly focuses on HEIs. So SERVQUAL scale belonging to Parasuraman, Zeithaml and, Berry (1988) including tangibles, reliability, responsiveness, assurance and, empathy was adopted to gauge the service quality within the scope of HE. This scale has a multi-dimensional structure. Twenty two items were employed to gauge service quality. Four items for gauging students' satisfaction were derived from Al-Alak's (2006) scale. Finally, students' supportive attitude scale was derived from Sung and Yang's (2008) scale which was adapted from Porter et al. (1974).

3.4. Questionnaire construction

The questionnaire items were turned into Turkish by a legal translator. Close attention was given to the translation, because of the language-oriented differences. Then the items were reviewed in the context of HE parlance. The questionnaire was first pretested by a convenient sample to revise and complement survey questions. The undergraduate students were participated in this stage. 34 paper-based survey results were collected at a university in Adana, the sixth largest city in Turkey. Finally, items were revised based on comments by a lot of small modifications. There are three constructs being gauged in present study: service quality, students' satisfaction, students' supportive attitude. Likert-type scales were used for all questions except the items assessing demographic information. Five-point Likert-type scales were used.

3.5. Data Collection

Present study's research subjects were students who had been studying for a year or longer in Adana's universities. Adana which is the sixth largest city in Turkey has two state universities. Data was collected by a 4 surveyors as a face to face survey. Volunteers interested in research topic were participated to survey. Thus, it is supposed that this collection operation was proper and represented the students' evaluations.

The data were collected from September to October 2017. Consequently, a total of 610 responses (350 from Çukurova University, and 260 from Adana Science and Technology University) were collected. There were 5 unusable questionnaires due to relatively high portions of missing data. Finally, 605 questionnaires were retained for analysis. The data were utilized to conduct descriptive and structural statistical analyses for examining the hypotheses showed in the model.

4. Analyses and Results

In this section, all research analyses and results showed.

4.1. Sample Profile

The basic characteristics of respondents are shown in this section, including three major items: gender, age, marital status. Table 1 demonstrates information about demographic profile of sample.

Table 1. Demographic profile of sample

| Construct | Frequency | Percentage |
|----------------|-----------|------------|
| Gender | | |
| • Male | 318 | 52.56 |
| • Female | 287 | 47.44 |
| Age | | |
| • 17-24 | 569 | 94.05 |
| • Over 24 | 36 | 5.95 |
| Marital Status | | |
| • Single | 592 | 97.85 |
| • Married | 13 | 2.15 |

Of the 605 total number of respondents, 318 (52.56%) are male and 287 (47.44%) are female students. The respondents tend to be young (94.05% of the sample was younger than 24) and single (97.85%). These findings support the notion that starting age at a university is generally 17 or 18 in Turkey.

4.2. Reliability Analysis Results

At the outset, reliability analysis was applied to control the reliability coefficients of constructs. Table 2 demonstrates the reliability analysis results for SERVQUAL scale. All reliability analysis results are upwards of the recommended level (.70).

Table 2. Reliability analysis results of SERVQUAL scale

| Dimensions/items | Reliability coefficients (Alphas) |
|------------------|-----------------------------------|
| Tangibles | .793 |
| Reliability | .873 |
| Responsiveness | .860 |
| Assurance | .893 |
| Empathy | .889 |

Present study's measurement scales were all chosen from former studies. Kaiser-Meyer-Olkin (KMO-MSA) measure of sampling adequacy is applied to specify whether the data were suitable for factor analysis. The value of KMO-MSA is .95 explaining 70.4 percent of the variance in terms of service quality. The value of KMO-MSA is .76 explaining 66.4 percent of the variance in terms of students' satisfaction. The value of KMO-MSA is .74 explaining 76.5 percent of the variance in terms of students' supportive attitude. All KMO-MSA results are above .60 and Bartlett's Test of Sphericity results are below .005. KMO-MSA and Bartlett results state that the data set was suitable for performing factor analysis.

4.3. Measurement Models

First of all, confirmatory factor analysis (CFA) was implemented to demonstrate the underlying structure. To examine the hypotheses, structural equation modeling (SEM) was then applied. A first-order model and second-order model were first compared for verifying the multidimensionality of the service quality, as shown in Table 3. On the basis of SERVQUAL scale is a unidimensional construct, Model 1 represents a single factor solution in which all items were loaded on one factor. On the other hand, Model 2 represents multidimensional solution in which all items were loaded on five factors. LISREL program was used to evaluate the results. The models were evaluated by the robust maximum likelihood method because of the multivariate normality absence (p -value $\leq .05$). To interpret the models' goodness of fit, χ^2/df , root mean square error of approximation (RMSEA), goodness of fit index (GFI), normed fit index (NFI), and comparative fit index (CFI) were employed.

Table 3. Service quality measurement models' comparison

| Models* | χ^2/df | RMSEA | GFI | NFI | CFI |
|------------------------|-------------|-------------|------------|------------|------------|
| Model 1 (one factor) | 15.28 | 0.15 | 0.71 | 0.93 | 0.94 |
| Model 2 (five factors) | 4.06 | 0.07 | 0.90 | 0.98 | 0.98 |
| Recommended value | ≤ 5 | ≤ 0.08 | ≥ 0.9 | ≥ 0.9 | ≥ 0.9 |

* p -value < 0.01

Final CFA results were achieved by a set of scale refinement steps. The scales were refined by deleting items that did not load greater than 0.5 on the underlying constructs (Hair et al., 2014). Therefore, two items (RS2, E5) of service quality with a loading less than .50 were removed from Model 2. Model 2 of service quality showed proper fit and performed better than the Model 1 regarding fit indices, as shown in Table 3. Thus Model 2 was proper in order to model the service quality. Table 4 also demonstrates that all correlation values were significant at $p \leq 0.05$ level.

Table 4. Correlation values of service quality

| Constructs | (1) | (2) | (3) | (4) | (5) |
|----------------|----------|------|------|------|------|
| Tangibles | (1) 0.70 | | | | |
| Reliability | (2) 0.54 | 0.76 | | | |
| Responsiveness | (3) 0.61 | 0.68 | 0.82 | | |
| Assurance | (4) 0.60 | 0.68 | 0.76 | 0.82 | |
| Empathy | (5) 0.62 | 0.69 | 0.78 | 0.77 | 0.81 |

Diagonal values are the square roots of the AVEs.

**p-value ≤ 0.05*

Table 5 reports the CFA results of service quality dimensions and other characteristics. CFA results of model were interpreted to gauge the reliability, convergent validity, and discrimination validity. All of the standardized loadings of the items were statistically significant (t-values > 1.96). All items had significant loadings on related construct. Standardized factor loadings for service quality items were in the 0.67-0.90 range, demonstrating adequate convergent validity. Also an average variance extracted (AVE) above 0.50, means that a construct has suitable convergent validity. All AVEs were above its respective recommended cut-off level except tangibles dimension. Tangibles dimension is slightly lower than recommended cut-off level (0.49). Just one value of one construct is not enough to judge the all results. Additionally, all other values for tangibles dimension are indicating sufficient levels. Moreover, all values of the measurement model are within accepted limits. In this study, original measurement scale is tested in a culturally distinct surrounding and within the scope of HEI. Considering the all values totally, it is assumed that these results are suitable. Finally, all composite reliability (CR) val-

ues are above 0.60, demonstrating that all constructs have good reliability. All CRs from 0.79 to 0.90 and were above its own suggested cut-off level. The square root of each constructs' AVE was greater than its related correlation values with other constructs. Thus, the discrimination validity was adequate.

Table 5. Service quality CFA results and other characteristics

| Constructs | Item | Mean | SD | Factor Loading | t-Value* | AVE | CR |
|----------------|------|------|------|----------------|----------|------|------|
| Tangibles | T1 | 2.99 | 1.14 | 0.74 | 13.84 | 0.49 | 0.79 |
| | T2 | 3.16 | 1.13 | 0.70 | | | |
| | T3 | 2.96 | 1.13 | 0.67 | | | |
| | T4 | 2.98 | 1.15 | 0.69 | | | |
| Reliability | R1 | 2.79 | 1.18 | 0.82 | 17.78 | 0.58 | 0.88 |
| | R2 | 2.89 | 1.18 | 0.80 | | | |
| | R3 | 3.17 | 1.22 | 0.70 | | | |
| | R4 | 3.10 | 1.21 | 0.76 | | | |
| | R5 | 2.87 | 1.24 | 0.74 | | | |
| Responsiveness | RS1 | 2.94 | 1.14 | 0.76 | 18.42 | 0.68 | 0.86 |
| | RS3 | 2.99 | 1.14 | 0.84 | | | |
| | RS4 | 2.99 | 1.13 | 0.87 | | | |
| Assurance | A1 | 3.14 | 1.20 | 0.87 | 21.33 | 0.68 | 0.90 |
| | A2 | 3.10 | 1.18 | 0.84 | | | |
| | A3 | 3.10 | 1.17 | 0.68 | | | |
| | A4 | 3.00 | 1.15 | 0.90 | | | |
| Empathy | E1 | 2.82 | 1.17 | 0.85 | 21.34 | 0.66 | 0.89 |
| | E2 | 2.87 | 1.20 | 0.79 | | | |
| | E3 | 2.62 | 1.23 | 0.85 | | | |
| | E4 | 2.61 | 1.29 | 0.76 | | | |

*t-Values ≤ 0.05 .

CFA was then conducted to estimate the total measurement model parameters. The total measurement model was evaluated by using the robust maximum likelihood method owing to the absence of multivariate normality (p-value ≤ 0.05). The modification indices are then used to refine the total measurement model. It modified with the help of two modification indices (ST2-ST4, SA1-SA3). CFA results demonstrated that the total measurement model suggests close to fit the data. All fit indices satisfied the recommended values ($\chi^2/df = 4.03$ and p-value < 0.01 , RMSEA = 0.07,

GFI = 0.86, NFI = 0.97, CFI = 0.98), except for the GFI. While the GFI value was a little fewer than the suggested level, all other goodness fits were suitable. Moreover the GFI value overcomes the suggested cut-off level of 0.80 (Etezadi-Amoli and Farhoomand, 1996). Thus, there was a logical comprehensive fit among the model and the data. Table 6 demonstrates that all correlation values were significant. Table 7 also reports CFA results of the total measurement model and other characteristics.

Table 6. Correlation values of latent constructs

| Constructs | (1) | (2) | (3) |
|-------------------------------|----------|------|------|
| Service quality | (1) 0.82 | | |
| Students' satisfaction | (2) 0.66 | 0.76 | |
| Students' supportive attitude | (3) 0.44 | 0.65 | 0.84 |

Diagonal values are the square roots of the AVEs.

* p -value ≤ 0.05

Table 7. The total measurement model CFA results and other characteristics

| Constructs | Item | Mean | SD | Factor Loading | t-Value* | AVE | CR |
|---|------|------|------|----------------|----------|------|------|
| Service quality ($a=0.94$) | TA | 3.02 | 1.13 | 0.70 | 13.88 | 0.68 | 0.91 |
| | RE | 2.96 | 1.21 | 0.78 | 17.96 | | |
| | RS | 2.97 | 1.14 | 0.86 | 18.10 | | |
| | AS | 3.08 | 1.18 | 0.86 | 21.27 | | |
| | EM | 2.73 | 1.22 | 0.90 | 21.94 | | |
| Students' satisfaction ($a=0.83$) | ST1 | 2.75 | 1.16 | 0.83 | 23.80 | 0.58 | 0.85 |
| | ST2 | 2.53 | 1.10 | 0.81 | 22.31 | | |
| | ST3 | 3.07 | 1.15 | 0.60 | 15.56 | | |
| | ST4 | 3.17 | 1.19 | 0.80 | 21.96 | | |
| Students' supportive Attitude ($a=0.90$) | SA1 | 3.19 | 1.15 | 0.98 | 32.01 | 0.71 | 0.90 |
| | SA2 | 3.15 | 1.31 | 0.70 | 19.50 | | |
| | SA3 | 3.22 | 1.33 | 0.76 | 20.73 | | |
| | SA4 | 3.24 | 1.22 | 0.90 | 28.09 | | |

t-Values ≤ 0.05

CFA results of model were interpreted to gauge the reliability, convergent validity, and discrimination validity. All of the standardized loadings were statistically significant (t-values > 1.96). All items had significant loadings on related construct. Standardized factor loadings of items were in the 0.60-0.98 range, demonstrating adequate convergent

validity. Also All AVEs were between 0.58 and 0.71 and were above its own suggested cut-off level. All CRs ranged from 0.85 to 0.91 demonstrating that all measures have good reliability. The square root of each constructs' AVE was greater than its related correlation values with other constructs. Thus, the discrimination validity was adequate.

4.4. Structural Model

Finally, SEM was then employed to examine the hypotheses. LISREL was used to examine whether the data set is in accordance with the conceptual model. The models' comprehensive fit is agreeable ($\chi^2/df = 4.03$ $p < 0.01$, RMSEA = 0.07, GFI = 0.86, NFI = 0.97, CFI = 0.98). While the GFI value was a little fewer than the suggested level, all other goodness fits were suitable. Moreover the GFI value overcomes the suggested cut-off level of 0.80 (Etezadi-Amoli and Farhoomand, 1996). Thus, there was a logical comprehensive fit among the model and the data. The SEM results are shown in Table 8.

Table 8. SEM Results

| Path and Correlation | Standardized coefficient | t-Value* | Result |
|--|--------------------------|----------|-----------|
| H1 Service quality → Students' satisfaction | 0.66 | 14.84 | Supported |
| H2 Students' satisfaction → Students' supportive attitude | 0.63 | 14.91 | Supported |
| H3 Service quality → Students' supportive attitude | 0.02 | 0.45** | NS |
| R ² Values: Students' satisfaction → R ² = 0.44, Students' supportive attitude → R ² = 0.42 | | | |

Fit indices: $\chi^2/df = 4.03$ and $p < 0.01$, RMSEA = 0.07, GFI = 0.86, NFI = 0.97, CFI = 0.98. NS: Not Supported

* t-Values ≤ 0.05 ; ** t-value < 1.96

Consequently, all the hypothesized paths of this study are supported, except H3. H1 foresees that service quality directly and positively affects students' satisfaction. As Table 8 displays, the lambda value for the relationship among service quality and students' satisfaction is positive and significant ($\lambda: .66$, $t: 14.84$, $p \leq 0.05$). Thus this values support the H1. H2 foresees that students' satisfaction directly and positively affects students' supportive attitude. The lambda value for the relationship among students' satisfaction and students' supportive attitude is positive and

significant ($\lambda: .63$, $t: 14.91$, $p \leq 0.05$). Thus this values support the H2. H3 foresees that service quality directly and positively affects students' supportive attitude. The lambda value for the relationship among service quality and students' supportive attitude is positive. On the other hand this relationship is not significant ($\lambda: .02$, $t: 0.45$, $p > 0.10$). Thus these values don't support the H3. Table 8 also demonstrates the R² values. R² value shows to what extent the antecedents clarify an endogenous variable. Finally, the antecedents calculated for 44% of the variation in students' satisfaction, 42% of the variation in students' supportive attitude.

5. Conclusion and Discussion

The higher education sector has been growing steadily in all over the world year by year. Growing number of HEIs caused growing competition. Because of enhanced competition in the HE sector, the HEIs regard students more as customers today. HEIs are in need of support from their students, because students' supportive attitudes will provide several advantages to them. This study assumes that satisfied students will be more support their HEIs than others. Moreover delivering high quality service has become a significant purpose for the best part of HEIs. Literature also suggests that service quality has a positive relationship with students' satisfaction. Thus the aim of the study is to investigate the higher education institutions' service quality and its impact on student's satisfaction and supportive attitude in Turkey, as an emerging market.

The service quality has debated on differing views related with measures and dimensions of service quality in HE sector. It was assumed that SERVQUAL scale gauging service quality using may be proper. Therefore, this scale introduced by Parasuraman, Zeithaml, and Berry (1988) is employed. CFA was employed to demonstrate the underlying structure. Finally SEM was employed to examine the hypotheses. Five factor (original) model structure approved in order to model the service quality. As expected, the consequence of SEM demonstrated that service quality directly and positively affects students' satisfaction (H1). Within this scope, the result of the study is also coherent with the results of previous studies with regards to the direction of the relationship separately (Stodnick and Rogers, 2008; Malik et al., 2010; Farahmandian et al., 2013;

Wei and Ramalu, 2011; Sumaedi et al., 2011). Additionally increasing the service quality can give rise to increase in students' satisfaction. Thus, it is important for practitioners of HE to improve the services quality which are presented to their students for increasing the students' satisfaction. The consequence of SEM demonstrated that students' satisfaction directly and positively affects students' supportive attitude. (H2). Hence, the results provide support for previous researches relatively (Stephenson and Yerger, 2014; Stephenson and Yerger, 2015). Since students as customers symbolize the 'HEI's ambassadors' and the alumni of the future, it is important to increase students' satisfaction to gain their supports. Increasing the students' satisfaction can give rise to increase in students' supportive attitude. However, results did not support the direct effect (H3) of service quality on students' supportive attitude but the indirect effect on students' supportive attitude via the students' satisfaction path is supported. Therefore, it is significant for practitioners of HE to endeavor on figuring out how their students evaluate the service served and detect the factors that may influence the students' satisfaction or dissatisfaction. There are important contributions to the literature, especially from an emerging market, suggesting a holistic framework in HE sector. In the literature, the relations which are not tested as holistically (service quality- students' satisfaction- students' supportive attitude), even tested rarely (students' satisfaction- students' supportive attitude) are tested in this paper. So, service quality has a positive and statistically significant effect on students' satisfaction and eventually on students' supportive attitude in HEIs. Results also showed the SERVQUAL scale validity in HE sector Moreover there are limited researches focused on the relationship between students' satisfaction and students' supportive attitude. It is hoped that the study paid enough concern to enhance the researches in this area. All the determined relationships were also uncovered in a culturally distinct surrounding. Finally, the results contribute to literature on marketing in HE sector.

It is recommended that the changing nature of the HE sector promotes the practitioners to conduct the student-oriented principles. The results offer some significant inferences for research and practice. It is tried to comprehend the practicality of the original SERVQUAL scale in HE setting. Only two items of service quality with low loading were re-

moved. It may be because of applying the scale in a distinct context and cultural environment. It may also be due to translation problems, despite the given importance. Consequently, the results approved the dimensionality of service quality as the original scale. Extant literature indicates that there is a positive and statistically significant relationship among service quality and students' satisfaction (Stodnick and Rogers, 2008; Malik et al., 2010; Farahmandian et al., 2013; Wei and Ramalu, 2011; Sumaedi et al., 2011). Extending this assertion to the HEI setting, this study explores that service quality has a positive and statistically significant effect on students' satisfaction and eventually on students' supportive attitude in HEIs. Therefore HEIs can allocate their resources to become more student orientated. Thus HEI's practitioners can discover the pros and cons of their services. They also can apply progressions in providing service to increase students' satisfaction. Finally, higher level of students' satisfaction will cause higher level of students' supportive attitude. Thus the satisfied students as 'HEI's ambassadors' and the alumni of the future will serve lots of benefits to their organizations in return. For example, if the physical facilities are improved, more satisfied students are more likely to adopt the role of brand ambassadors.

This study has certain limitations. First and foremost, it contains students from two universities in a part of Turkey. Not only the study's sample size is adequate, but also the student profile is not different from all of Turkey. Further studies can also take larger samples from different HEIs in different parts of Turkey. A second limitation is focusing on the role of the overall service quality, it is recognized that service quality dimensions may also effect satisfaction. This study would stimulate more researches which study the dimension effects of service quality on students' satisfaction. Third, this study concentrates on three structures namely service quality, students' satisfaction and students' supportive attitude. Future studies can focus on other moderating and mediating roles in testing the impact of service quality on students' satisfaction and students' supportive attitude. Finally, it is important to apply and test the research model in culturally different environments. Cross-cultural studies can be useful with regard to extant the literature.

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