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THE EFFECT OF SERVICE QUALITY IN HIGHER EDUCATION INSTITUTIONS PROVIDING SPORTS EDUCATION ON STUDENTS' LOYALTY AND RECOMMENDATION BEHAVIORS

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ABSTRACT

Students have become extremely critical and analytical while choosing higher education institutions. Preferability by these students and the retention and commitment of current students are important for higher education institutions. Universities, one of the most important representatives of higher education institutions, are directly and indirectly evaluated by their stakeholders regarding the quality of the services they provide. As a result of these evaluations, the increasing studies on the service quality and loyalty can have a wide range of reflections from the ranking of institutions to their preferability and financial policies. The aim of this study is to examine the relationships between service quality, student loyalty and recommendation intention, and the structure that creates these relationships, in particular within sports sciences faculties. In this direction, the sample of the study consists of 242 students who are senior at the Departments of Physical Education and Sports Teaching, Coaching Education, Sports Management and Recreation in the Faculty of Sports Sciences of Selçuk University. In the study, survey method was used for the data collection, and basic statistics such as frequency, percentage, mean, standard deviation and structural equation model were used. As a result of the data analysis carried out through SPSS 21 and AMOS 23 programs, positive and significant effects of perceived service quality, empathy, academic appearance and access variables were determined on the loyalty of sports science faculty students, and positive and significant effects of empathy and academic appearance variables were determined on their recommendation intentions. In order for universities to increase student loyalty and recommendation intention in sports sciences faculties, it is recommended that academic and administrative staff should engage in activities that improve their empathy skills, as well as easy access to quality sports facilities, modern equipment and services.

Keywords: Perceived service quality, student loyalty, recommendation behavior.

INTRODUCTION

The increasing point of view towards education in societies, the transition to information society and the increase in the need for qualified labor in the field of industry have increased the importance of higher education institutions. In addition, higher education institutions are gaining more and more importance both within themselves and within the country's economies in terms of the economic value they create. The increase in the number of higher education institutions or the widening of the selection range of the students brought along the commercial and competitive operation of these institutions. This commercial and competitive structure has made the point of view towards students and the service given or provided by institutions to be questioned (Eskildsen & Kristensen, 2000). In this new structure, students are redefined as customers and the education provided as products. In addition, employers, employees, government, industry, families and society are also considered as customers of educational institutions (Helgesen & Nettet, 2007; Martensen et al., 2000). Rashid and Raj (2006) emphasized that students should not be considered as traditional commercial customers, but as individuals who pay a fee, albeit partial, in return for the learning service they receive.

The competitive structure brought about by the developments and advancements in higher education institutions, the increase in the number of institutions and the increase in the probability of students to get into an institution require an examination of the factors that are effective in choosing these institutions. One of the most important of these factors is the service quality perceived by the students. Many researchers and experts agree that service quality is the strongest competitive trend today (Firdaus, 2005). Service quality studies in the higher education sector are relatively new compared to the commercial sector. Most of the quality models widely applied in the business world have been adapted and used in the education sector (Chua, 2004; Sultan & YinWong, 2013). Some researchers have used the service quality model, which is designed to measure service quality in general, in order to evaluate service quality in higher education (Ozgul & Devebakan, 2005; Yilmaz et al., 2007; Talih, 2008; Çelik, 2010; Ong & Nankervis, 2012; Yousapronpaiboon, 2014; Turkel, 2017; Datta & Vardhan, 2017; Ayvaz, 2018; Savas, 2018; Kandie, 2018; Gersil & Güven, 2018; Soni & Govender, 2018). Some researchers have developed new scales with the thought that the structure of the education sector is different from other service sectors (Kocapınar, 2002; Abdullah, 2006; Mahapatra & Khan, 2007; Yıldız & Kara, 2009; Sultan & YinWong, 2010; Saad, 2013; Icli & Anıl, 2014; Kumar & Dash, 2014; Rave & Giraldo, 2015; Vargas-Hernández & Ibarra, 2016; Gök, 2017; Özenir, 2018; Marimon et al., 2019; Abbas, 2020; Erdoğan & Şirin, 2020).

The terms service quality and satisfaction are often used interchangeably. Therefore, it is difficult to separate these concepts from each other. Similar to service quality, satisfaction is an abstract and ambiguous concept (Munteanu et al., 2010), and many researchers have tried to develop a reconciliation definition for this concept (Giese & Cote, 2000). Satisfaction is defined as the perception of fulfilling a service with pleasure (Oliver, 1999). Athiyaman (1997), on the other hand, argues that satisfaction is the result of evaluating a particular transaction or consumption experience. However, measuring satisfaction provides institutions with a way to determine the success of a product following its entry into the market (Munteanu et al., 2010). On the other hand, service quality is interpreted as a permanent global attitude that encompasses the whole view of the institution, while

satisfaction is seen as related to a particular transaction or consumption experience (Rowley, 2003). Based on these reasons, service quality, which is thought to affect student loyalty and recommendation behavior, was used as a variable and student satisfaction was not evaluated in the research model.

The concept of loyalty in higher education institutions is directly related to the retention of existing students and the acquisition of new students. According to the service sector theory, the student's loyalty to their own educational institution is an important factor in increasing the quality of education with the factors of active participation and commitment of the student (Hening-Thurau et al., 2001). For this reason, student loyalty is seen as a good indicator of the quality of education in higher education institutions and is also considered as a result criterion of the education process. Student loyalty is expressed as the attitude of the student with cognitive, emotional and behavioral dimensions towards the continuation of his/her education at his/her own university and his/her relationships after graduation (Helgesen & Nettet, 2007). Although the concept of student loyalty has been the subject of many studies abroad (Helgesen & Nettet, 2007; Lin & Tsai, 2008; Hennig-Thurau et al., 2001; Yu & Kim, 2008), recently, the concept has begun to be given importance in our country. In addition, students have become extremely critical and analytical when choosing educational institutions (Binsardi & Ekwulugo, 2003). Onditi and Wechuli (2017) state that the perceived service quality in higher education institutions can be the product of the evaluation of a series of service comparisons for a student, and these can vary from comparing administrative staff to comparisons of lecturers, librarians and security personnel.

Looking at the literature, many studies have been conducted in different cultures to determine the relationship between service quality and student loyalty in higher education institutions. However, in the studies conducted, the existence of the relationship between service quality and student loyalty has not been fully determined. Despite extensive research on the relationship between perceived service quality and student loyalty, it is unclear whether perceived service quality is directly or indirectly related to student loyalty (Saoud & Sanséau, 2019). While some researchers argue that service quality directly affects student loyalty (Fares, Achour & Kachkar, 2013; Rojas-Mendez et al., 2009; Seyfullayev, 2015; Radiman et al., 2018), other researchers argue that perceived service quality has no effect on student loyalty (Dib & Mokhles, 2013; Bakrie et al., 2019; Martinez-Arguelles & Batalla-Busquets, 2016; Chandra et al., 2018; Chandra et al., 2019; Teeroovengadum et al., 2019; Mohamad & Awang 2009; Dabholkar et al., 2000) and that service quality indirectly affects student loyalty (Bloemer et al., 1999; Gronholdt et al., 2000; Caruana, 2002; Mosahab et al., 2010; Huili & Jing, 2012; Annamdevula & Bellamkonda, 2016). In addition, when the studies carried out in higher education institutions were examined, it was determined by different studies (Sagib & Zapan, 2014; Abdullah, 2005; Mulyono et al., 2020) that the PERSPERF service quality scale sub-dimensions (academic appearance, access and empathy) used in the study also affected student loyalty. In the light of the information obtained from these studies and the conceptual framework, it is thought that university students' perceptions of service quality and its sub-dimensions will increase their level of loyalty to their universities, and the following research hypotheses are suggested:

H_1 : The academic appearance sub-dimension has a positive effect on student loyalty.

H_2 : The access sub-dimension has a positive effect on student loyalty.

H_3 : The empathy sub-dimension has a positive effect on student loyalty.

Many studies in the literature reveal that perceived service quality affects customers' behavioral intentions and recommendation behaviors (Twaissi & Al-Kilani, 2015; Boulding et al., 1993; Zeithaml et al., 1996; Gracia et al., 2011; Ha & Jang, 2012). In a study conducted by Joseph, Yakhou, and Stone (2005) on university students in the United States, it is stated that the recommendation of friends is an important factor when choosing a university. In a similar study, Seyfullayev, (2015) concluded that satisfaction, loyalty, image and recommendation of students studying at public and foundation universities are positively related to quality. Topsakal and İplik (2013) stated that there is a significant relationship between students' satisfaction and recommendation intention and their perceived quality in their study on tourism faculty students of one of the leading universities in Turkey. Hartono and Raharjo (2015) reported that there is a positive relationship between the service quality and both repurchase intentions and willingness to recommend institutions to others. The same-sided effect of service quality on recommendation and repurchase intention was found in the studies of Brochado (2009). The behavioral intentions examined included the desire to say positive things about the university and to recommend the university to others. In addition, the perception of service quality is also related to the desire to continue and leave the university. In the higher education literature, it is stated in the study by De Jager and Gbadamosi (2010) that perceived service quality is significantly related to students' intention to leave university. Again, in a study conducted in Turkey, Karacabey, Boyacı, and Özdere (2016) aimed to determine the reasons that affect students' university preferences and the factors that play a role in whether they will continue to university after they get into university, and as a result of the study, they stated that students take into consideration the reputation of the university, the opportunities it has and offers to students, the relations of the university with other institutions and organizations, the quality of education and academic staff, the city in which it is located and the characteristics of the city in their university preferences.

Recommendation intention and the willingness to choose the institution where the service is offered have been emphasized as important aspects of service quality and loyalty structure in some literature (Caruana, 2002; Purgailis & Zaksa, 2012). In this context, Hennig-Thurau, Langer, and Hansen (2001) suggest various reasons for the importance of students' loyalty in educational institutions, such as retaining students, which is considered a vital success factor in the service sector and recommending the institution. Students develop attitudes based on their service experience at their university. Students' positive behavioral intentions express their binding loyalty. These specific indicators of positive behavioral intentions are associated with recommending their university to others and positive word-of-mouth. Based on these studies and the conceptual framework, the following research hypotheses have been proposed, considering that university students' perceptions of service quality and its sub-dimensions may positively affect their behavioral intentions and recommendation behaviors:

H_4 : The academic appearance sub-dimension has a positive effect on the recommendation intention.

H_5 : The access sub-dimension has a positive effect on the recommendation intention.

H_6 : The empathy sub-dimension has a positive effect on the recommendation intention.

This has led the administrators of higher education institutions to seek new ways to provide quality service, so as to attract new students and to protect their existing students. For this reason, it is important that the education and training services provided in higher education institutions are of high quality and meet the requirements. There is also a need to focus on understanding how students perceive service quality. In this case, efforts should be made to follow both national and international developments and to ensure that quality is an integral part of universities. It is necessary to understand the needs of students, who are the primary customers of educational institutions, and to provide education services that can respond to these needs. Thus, higher education institutions should create loyalty in their students with these educational service opportunities and be able to make this loyalty permanent. Therefore, an individual who has a sense of loyalty to the university he/she will graduate from or graduated from will recommend his/her university to others. With this research, it was aimed to discuss the effects of service quality dimensions, which are thought to be effective on student loyalty and recommendation behavior, on the conceptual models that have been developed, and the benefits of revealing the student's loyalty to the institution and recommendation behavior were determined within the framework of the literature, and it was tried to guide the administrators and instructors in higher education institutions that provide sports education.

METHOD

In this study, it was assumed that academic appearance, empathy and access, which are sub-dimensions of service quality in higher education institutions providing sports education, may have effects on student loyalty and recommendation intention. In order to test these assumptions, a structural equation model (SEM) was designed within the scope of the study. Structural equation model tests the predictive relationships between endogenous and exogenous variables and latent structures in factor analysis together (Cokluk et al., 2016; Sümer, 2000).

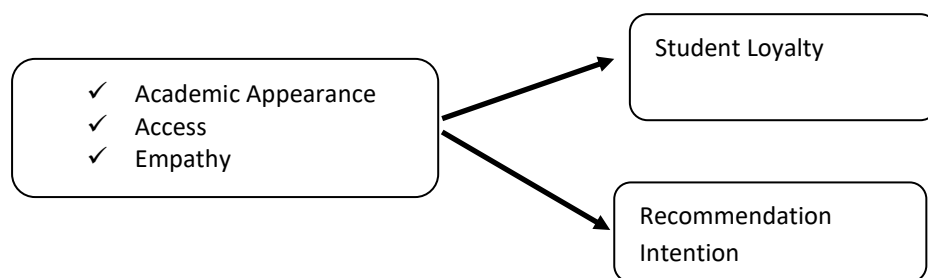


Figure 1. Conceptual model

Participants

Research data were collected in the spring semester of the 2020-2021 academic year, from the Faculty of Sport Sciences, Selcuk University. Research data were collected from the senior students who voluntarily agreed to participate in the study, through convenience sampling. Convenience sampling method refers to the collection

of data by easily reaching the people in the population of the research (Büyüköztürk et al., 2018). Since SEM will be applied in the research, while determining the sample size, the 150 rule of Hutcheson and Sofroniou (1999), which determines the sample number between 150-300, which can be applied when there are highly correlated variables between them, was taken into consideration. The sample of the study consisted of a total of 242 senior students, 164 (67.8%) male and 78 (32.2%) female, studying at the Physical Education and Sports Teaching (n=68; 28.1%), Coaching Education (n=52; 21.5%), Sports Management (n=98; 40.5%) and Recreation (n=24; 9.9%) Departments.

Data Collection Tools

Service Quality in Physical Education and Sports Sciences (PERSPERF): The scale developed by Yıldız and Kara (2009) consists of three sub-dimensions: “academic appearance”, “access” and “empathy”. The data in the scale were collected using a 7-point Likert type and the scale consists of a total of 30 items. The scale has 3 sub-dimensions: academic appearance sub-dimension consisting of 14 items (sample item: This school looks great and has an ideal location with its campus layout), empathy sub-dimension consisting of 12 items (sample item: Academic and administrative staff have a professional appearance), access sub-dimension consisting of 4 items (sample item: Students can easily use the campus and sports facilities when necessary). Rating options for scale items were expressed as (1=Strongly Disagree and 7=Totally Agree). The Cronbach Alpha coefficient obtained from the data set was determined as .97 for academic appearance, .92 for empathy and .96 for access for sub-dimensions, respectively. As a result of the explanatory factor analysis for Service Quality in Physical Education and Sports Sciences (PERSPERF), the total extracted variance was found to be 76%. As a result of the confirmatory factor analysis performed for the construct validity of the three-dimensional scale, the goodness-of-fit values were specified as ($\chi^2/df=2.37$; RMSEA=.066; GFI=.801; AGFI=.77).

Student Loyalty and Recommendation Intention: In our study, since its sample group was the faculty of sports sciences and was more up-to-date than other studies, student loyalty and recommendation intention scales items, whose validity and reliability were proven by Şirin, Erdoğan, and Çınar (2019), were used. As a result of the exploratory factor analysis, the researchers decided that both scales should consist of 3 items and a single factor. A 5-point Likert-type rating was used in the scales. Rating options for scale items were expressed as (1=Strongly Disagree and 5=Strongly Agree). According to the findings, the Cronbach Alpha reliability value of the student loyalty scale was found to be high with .88. The factor loads of the scale items ranged from .88 to .91. The Cronbach's Alpha value of the recommendation intention scale was determined as .88 and the scale expressions were loaded between .88 and .90.

Data Collection Process

The research data were approved by the Scientific Research Publication Ethics Committee of Karamanoğlu Mehmetbey University, with the decision numbered 19-29 and dated 29.03.2021. Data for the research were collected between 12-18 April 2021. The data of the research were collected online due to the covid-19 epidemic

that affected the whole world. The online questionnaire prepared using the Google form was shared in the student WhatsApp groups by the advisors of the senior students who will participate in the research. Questionnaire forms were shared with the students after informing them about the study by the relevant instructor before the online lesson.

Data Analysis

In the research, the SEM model was used to determine the effects of academic appearance, empathy and access, which are the sub-dimensions of service quality in higher education institutions providing sports education, on student loyalty and recommendation intention.

SPSS 23 and AMOS programs were used in the analysis of the research data. Before the data analysis, the data entered into the SPSS program were examined in terms of missing or erroneous values, and no outliers were detected in the outlier analysis. Instead of the items left blank, assignment was made through the expectation maximization (EM) algorithm. In order to make structural equation modeling in the analysis of the data, some assumptions must be met. These assumptions are that the observable and latent variables show a multivariate normal distribution, there is no multicollinearity between the variables, and outliers are removed from the data set (Cokluk et al., 2016; Sümer, 2000; Şimşek, 2007). In this context, Kolmogorov-Smirnov (KS) analysis ($p > .05$) and skewness and kurtosis (-1,+1) (Tabachnick & Fidell, 2007), (-2,+2) (George & Mallery, 2010) coefficients were used to test the normality of the data. As a result of the KS analysis, it was seen that the significance of the variables ($p < .05$) was not met. However, it was determined that the skewness and kurtosis coefficients of the data were in the ranges determined for service quality (-.73; -.14), student loyalty (.026; -1.24) and recommendation intention (-.26; -.84), and that the data provided normality. In order to determine the direct predictive power of the independent variable on the dependent variable, path analysis was performed within the framework of structural equation modeling (SEM). χ^2 /Sd, RMSEA, SRMR, CFI, GFI and AGFI fit indices were used to evaluate the path analysis model fit.

FINDINGS

In this section, the findings obtained as a result of the statistical analysis of the data obtained in line with the purpose and method of the research are given in tables and interpreted.

Table 1. Descriptive Statistics

Scales/Sub-Dimensions	N	Min.	Max.	\bar{X}	SD
Academic Appearance	242	1.15	6.39	1.10	3.65
Empathy		.92	6.47	1.22	3.70
Access		1.00	7.00	1.45	4.06
Student Loyalty		1.00	5.00	1.32	2.93
Recommendation Intention		1.00	5.00	1.15	3.34

The descriptive statistical evaluation of the academic appearance, empathy and access, which are the sub-dimensions of the service quality scale, and the student loyalty and recommendation intention scales in terms

of the Sport Sciences Faculties students is shown in Table 1. The academic appearance sub-dimension of the students of the faculty of sports sciences was determined as $\bar{X}=1.10$ (SD=3.65), the empathy sub-dimension as $\bar{X}=1.22$ (SD=3.70), and the access sub-dimension as $\bar{X}=1.45$ (SD=4.06), student loyalty scale as $\bar{X}=1.32$ (SD=2.93), and the recommendation intention scale as $\bar{X}=1.15$ (SD=3.34).

Evaluation of the Measurement Model

In line with the data obtained within the scope of the research, the measurement model of the research was tested. Confirmatory factor analysis was performed using the AMOS program to test the validity of the measurement model (Muthén & Muthén, 2017). Considering the fit values obtained as a result of the first analyses [χ^2 (588, N = 242) = 1480.993, $p < .00$, $\chi^2/df = 2.519$, RMSEA = .079, SRMR = .064, CFI = .86], it was determined that some fit values were not in the desired range. In order to increase the fit values to a better fit range, the covariance between error variances was added. After adding e9-e18, e10-e11, e34-e37 covariance, the goodness-of-fit values were taken to the acceptable range. Goodness-of-fit values for the measurement model are shown in Table 2.

Table 2. Evaluation of the Measurement Model

Model Fit Index	Perfect Range	Acceptable Range	Fit Values
X2/df	0<X2/df<3	2<X2/df<5	2.2
RMSEA	.00<RMSEA<.05	.05<RMSEA<.08	.071
CFI	.95<CFI<1.00	.90<CFI<.95	.90
SRMR	.00<SRMR<.05	.05<CFI< .10	.061

When Table 2 is examined, it can be said that the fit values are in the acceptable range and the model is suitable as a result of the analyses made for the evaluation of the measurement model.

Table 3. Confirmatory Factor Analysis Results

Factor/Sub-Dimension	Question	t value	R2	Ba
Academic Appearance	HK1 This school looks great and is ideally located with campus layout	7.86	.32	.57
	HK2 The sports facilities of this school are adequate and have a professional appearance.	8.28	.36	.60
	HK 4 Sports equipment and course equipment are up-to-date and technologically superior	9.90	.56	.75
	HK 5 The school website is excellent and efficient	12.76	.49	.70
	HK 6 Buildings and facilities are sufficient	9.14	.46	.68
	HK 7 Sports facilities comply with international standards	9.01	.44	.67
	HK 8 Buildings and sports facilities have the necessary safety features	9.43	.50	.71
	HK 9 This school offers high quality academic content and knowledge base	9.61	.52	.72
	HK 11 Sports equipment and supplies meet the course requirements	10.08	.59	.77
	HK 12 This school offers a wide variety of programs, and course content is up-to-date and meets student expectations	9.81	.55	.74
	HK 13 This school offers a wealth of extracurricular activities	8.09	.34	.59

	HK 14 Apart from in-class experience, this school provides students with significant opportunities to develop their skills, knowledge and experience in their respective areas of interest (scientific, social activity, etc.)	8.34	.37	.61
	HK 15 This school's website is very up-to-date and useful		.40	.63
	HK 20 Students can improve their knowledge and skills in their field by using the opportunities offered outside the school (other institutions where they can practice field; school, club, etc.)	9.63	.53	.72
Empathy	HK 21 Things at this school are done on time and right at the first time	10.82	.60	.77
	HK 22 This school does what was promised before	9.91	.49	.70
	HK 23 Everyone is treated equally and fairly in this school	9.77	.47	.69
	HK 24 This school offers timely solutions to problems	11.24	.66	.81
	HK 25 Academic and administrative staff communicate well with students and treat them kindly	10.69	.58	.76
	HK 26 Personal information at this school is kept strictly confidential	8.86	.38	.62
	HK 27 Student interests are always protected at this school	11.30	.67	.82
	HK 28 This school takes care of students individually	10.57	.57	.75
	HK 29 This school is very sensitive to students' problems and complaints	11.11	.64	.80
	HK 30 This school does its best for students to have peace of mind	11.63	.71	.84
		HK3 Academic and administrative staff have a professional appearance		.49
	HK10 Academic and administrative staff are highly educated, have the necessary knowledge experience in their field	9.87	.44	.70
Access	HK16 Students can easily use the campus and sports facilities when needed	9.24	.39	.62
	HK17 Academic and administrative staff are available or accessible when the student needs them		.55	.74
	HK18 This school provides easy access to academic materials and course content	12.74	.74	.86
	HK19 Students can easily access and use sports equipment	10.99	.54	.74
Student Loyalty	S1 If I had the chance to choose a university again, I would choose my own university again		.71	.84
	S2 I feel connected to my university	17.91	.79	.89
	S3 I am very happy to belong to this university	19.71	.88	.94
Recommendation Intention	T1 I would recommend the faculty to others.		.79	.89
	T2 I say positive things about this faculty to acquaintances	21.01	.83	.91
	T3 I have no concerns about recommending the services offered by this faculty for future students	19.03	.75	.87

The convergent validity features of the scales were also examined in the study. For convergent validity, the coefficients of significance of factor loadings, composite reliability (CR) and average variance extracted (AVE) are checked. According to Table 3, it is seen that all factor loads are significant and according to Table 3, the CR value is above .70. Although it is expected to be above .50 for the AVE value, the fact that the CR value is above .70 still indicates that the constructs have divergent validity among themselves (Fornell & Larcker, 1981; Huang et al., 2013). Also, AVE is a strict calculation method. Researchers argue that the constructs in question have divergent validity based on CR alone (Malhotra & Dash, 2016). When Table 3 is examined, it is seen that AVE values take values between .46 and .79, CR values take values between .83 and .94, and Cronbach Alpha values take values between .83 and .94.

Table 4. Convergent and Divergent Validity

Factor/Sub-Dimensions	AVE	CR	CA
Academic Appearance	.46	.92	.93
Empathy	.56	.94	.94
Access	.55	.83	.83
Student Loyalty	.79	.92	.92
Recommendation Intention	.79	.92	.92

Note: AVE= Average Variance Extracted, CR = Convergent Reliability, CA= Cronbach Alfa

In this case, when the analysis results obtained are evaluated, it is possible to say that the variables in the measurement model have divergent validity. When these findings are evaluated together, it can be said that the measurement model of the research was confirmed and the scales have construct validity.

Evaluation of Structural Model and Testing of Hypotheses

After the measurement model was verified, the research hypotheses were tested on the structural model created to reveal the effects of academic appearance, empathy and access, which are the sub-dimensions of service quality, on student loyalty and recommendation intention.

Table 5. SEM Analysis fit Values

Model Fit Index	Perfect Range	Acceptable Range	Fit Values
X2/df	0<X2/df<2	2<X2/df<5	2.71
RMSEA	.00<RMSEA<.05	.05<RMSEA<0.10	.079
CFI	.95<CFI<1.00	.85<GFI<.90	.85
PGFI	.95<PGFI<1.00	.50<PGFI<.95	.63
SRMR	.00<SRMR<.05	.05<CFI< .10	.068

P>.05, X2=Chi-Square; df=Degree of Freedom; GFI=Goodness-of-Fit Index; RMSEA=Root Mean Square Error of Approximation; PGFI= Parsimony Goodness-of-Fit Index. Reference: Meydan and Sesen (2011, p.37)

As a result of the analysis of the structural model, it was revealed that the model's goodness-of-fit values were in accordance with the acceptable goodness of fit evaluations by Hu and Bentler (1999) [χ^2 (24, N = 242) = 1589.900, χ^2/df = 2.71, RMSEA =.079 SRMR = .068, CFI = .85]. SEM analysis fit values are shown in Table 5.

Table 6. Coefficient Statistics of the Structural Model

Structural Paths	Variables	Standardized β	Standard Error	t value	P
Academic Appearance → Student Loyalty		.31	.13	2.22	<.026
Academic Appearance → Recommendation Intention		.32	.12	2.49	<.013
Access → Student Loyalty		.29	.13	-2.12	<.033
Access → Recommendation Intention		.25	.11	-1.93	<.053
Empathy → Student Loyalty		.69	.14	5.53	<.00
Empathy → Recommendation Intention		.69	.12	5.83	<.00

When the obtained values are examined, it is seen that academic appearance affects student loyalty (β =.26; p <.05), academic appearance affects the recommendation intention (β =.29; p <.05), access affects student loyalty (β =.26; p <.05), empathy affects student loyalty (β =.76; p <.05), and again, empathy affects recommendation

intention ($\beta=.68$; $p<.05$). However, no significant relationship was determined between the access sub-dimension and the recommendation intention variable ($\beta=.22$; $p<.05$). According to these findings, while hypotheses 1,2,3,5,6 were supported, hypothesis 4 was rejected.

CONCLUSION and DISCUSSION

In the study, in which confirmatory factor analysis was performed by applying the structural equation model, it was revealed that all of the perceived service quality sub-dimensions had a positive effect on student loyalty, and that the perceived service quality sub-dimensions (academic appearance and empathy), except for the access dimension, which is one of the perceived service quality sub-dimensions, had a positive effect on the recommendation intention. It was seen that all of the fit indices of the model were in the range of values that would ensure the validity and consistency of the model. It was seen that the most important contribution to explaining the dependent variable of student loyalty and recommendation intention was provided by the empathy variable, and secondly by the academic appearance variable. The fact that all coefficients are positive indicates that the relationship between the independent variables and the dependent variable, student loyalty and recommendation intention, is positive. While it was seen that the access variable made the least contribution to explaining the dependent variable, student loyalty, no significant effect of the access variable was seen in the model in explaining the recommendation intention. Along with this general result of the research, the results and comments when going from the main dimensions to the sub-dimensions are given below.

The significance of these relations in the model was tested and it was seen that 3 relations were significant at the 0.05 level and the remaining 2 relations at the 0.01 level. The fact that the “Empathy” variable contributes more to Student Loyalty and Recommendation Intention than the “Academic Appearance and Access” variables shows that sensitive behaviors, that is, showing personal attention to students, accessibility, understanding and listening to students, and being able to respond to their needs are more important factors in creating student loyalty and recommendation intention in sports science faculties than being a faculty with quality sports facilities and modern equipment and easy access to these services. Regarding this subject, Voss, Gruber, and Szmigin (2007) found in their study on higher education service quality that students primarily demand educators to be more knowledgeable, excited, not keeping a distance, and approachable. When the relevant literature is examined, in the study conducted by Sagib and Zapan (2014) on 275 international students studying at the faculties of Hospitality, Tourism and Culinary Arts (HTCA) at Taylor University, Malaysia, it was seen that Academic Appearance had no effect on student loyalty, but access had a positive effect on student loyalty, which partially supports our research findings. It can be said that this partial difference is due to the quality of the school (Faculty of Hospitality, Tourism and Culinary Arts) and the value perceptions of the culture in which the sample is located. In addition, in the study on 319 students from Jakarta London School of Public Relation in Indonesia, which supports our research findings, Leonard (2018) found that the empathy sub-dimension of service quality has a direct effect on student loyalty. In the studies of Mulyono, Hadian, Purba, and Pramono (2020), an indirect effect was reported between student loyalty and campus access through student satisfaction. On the other hand, Abdullah (2005) stated in the HedPERF scale development study for the higher education sector that non-

academic appearance, academic appearance, access, image, program outcomes and empathy sub-dimensions have a significant positive correlation with loyalty.

The fact that the "Empathy" variable contributes more to the recommendation intention than the "Academic Appearance" variable in the study is in line with the study by Browne, Kaldenberg, Browne, and Brown (1998) which revealed that the interaction of faculty and higher education institution staff with the student plays a large role in a student's likelihood of recommending the university to friends/acquaintances (Elliot & Healy, 2001). In addition, in the study by Erdoğan (2020), which supports our research findings, on 34 Sports Sciences Faculty students in Turkey, it was stated that a student, who receives service in academic and administrative matters from the faculty s/he is a student of, who is given sufficient, reliable and timely information when needed, whose problem is sincerely dealt with when s/he has a problem, and who experiences that a solution is brought to the problem in a way that takes into account the common interests of both parties (empathy), would be loyal to his/her faculty and would recommend this faculty to his/her friends.

In terms of the analysis results, it was determined that the most powerful effect of students' perceptions of service quality towards their faculties on student loyalty and recommendation behavior is (1) empathy, which is followed by (2) academic appearance and (3) access, respectively. In this respect, it was determined that the empathy skills of the instructors are extremely important in improving the attitudes of the students towards the perceived service quality in order to increase the preferability of the faculties of sports sciences. Considering that service quality is teamwork in universities, empathy skills of not only academic staff but also administrative staff and especially student advisors and student affairs staff who need to communicate directly with students should be developed. Furthermore, academic appearance also has a significant impact on both student loyalty and recommendation intention. In this respect, the facilities and material qualifications of the faculties of sports sciences, the course content of the program, the quality of extracurricular activities are among the characteristics that should be considered in the university/faculty to have loyal students and to show these students a recommendation behavior.

This research has revealed how effective service quality, which is one of the key points in customer relationship management, is in loyalty and recommendation. A model was put forward to explain the loyalty and recommendation intention formed in the minds of the students by the perceived service quality. This model gives an idea to the administrators of sports sciences faculties in universities about which service quality dimensions should be given importance and how much. It is evaluated that the research method in this study can be used by the administrators of the faculties of sports sciences.

RECOMMENDATIONS

Based on the results obtained as a result of the research, the recommendations that are thought to be helpful to the researchers are listed below.

- In the literature, besides the factors used in this study, it is seen that factors such as trust (Kunanurson & Puttawong, 2015; Rojas-Méndez et al., 2009; Perin et al., 2012), commitment (Rojas-Méndez et al., 2009; Perin et al., 2012) and institution image (Mohamad & Awang, 2009; Kunanurson & Puttawong, 2015; Helgesen & Nettet, 2007, Karatekin Alkoç 2017) are frequently used to interpret student loyalty and recommendation intention. In this context, researchers can conduct their studies by using factors that will predict student loyalty and recommendation intention, which will be different from these factors. For example, the concept of perceived risk may also be taken into account in future studies.
- In this study, the perceived service quality scale consists of a multidimensional structure, but the student loyalty scale consists of a unidimensional structure. Researchers can also examine student loyalty with multidimensional constructs if they wish.
- The universities where the research model is tested are state universities. Researchers who want to work on this model can not only limit their studies to state universities, but also carry out and compare their studies through foundation universities.
- In order for the model constructed in the research to be generalizable, it can be tried on students of different faculties of sports sciences, and in addition, other faculties of the same university can be included in the study and the model can be tested between the faculty of sports sciences and other faculties. This will enable the university to better determine its own service quality and to differentiate its services on a departmental basis. Furthermore, it is also important to conduct longitudinal studies on the model. In addition, by choosing a sports sciences faculty that has a quality certificate or is accredited and a sports sciences faculty that does not have these documents, the effect of the quality certificate on student loyalty and recommendation intention can be revealed by making a comparison between these two faculties.

The most important limitations of this study are the use of convenience sampling, which is one of the non-random sampling methods, and the limited sample size due to cost and time constraints. Accordingly, this creates a limitation in terms of the generalizability of the results.

ETHICAL TEXT

“In this article, the journal writing rules, publication principles, research and publication ethics, and journal ethical rules were followed. The responsibility belongs to the authors for any violations that may arise regarding the article. Ethics committee approval of the article was obtained by Karamanoğlu Mehmetbey University / Publication Ethics Committee with the decision dated 29.03.2021 and numbered 19-30 ”

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REFERENCES

- Abbas, J. (2020). Heisqual: A modern approach to measure service quality in higher education institutions. *Studies in Educational Evaluation*, 67, 1-11. <https://doi.org/10.1016/j.stueduc.2020.100933>
- Abdullah, F. (2005). HEdPERF versus SERVPERF: The quest for ideal measuring instrument of service quality in higher education sector, *Quality Assurance in Education*, 13(4), 305-328. <https://doi.org/10.1108/09684880510626584>
- Abdullah, F. (2006). The development of HEdPERF: A new measuring instrument of service quality for the higher education sector. *International Journal of Consumer Studies*, 30(6), 569–581. <https://doi.org/10.1111/j.1470-6431.2005.00480.x>
- Annamdevula, S., & Bellamkonda, R.S. (2016). The effects of service quality on student loyalty: the mediating role of student satisfaction, *Journal of Modelling in Management*, 11(2), 446-462. <https://doi.org/10.1108/JM2-04-2014-0031>
- Athiyaman, A. (1997). Linking student satisfaction and service quality perceptions: the case of university education", *European Journal of Marketing*, 31(7), 528-540. <https://doi.org/10.1108/03090569710176655>
- Ayaz, N. & Arakaya, A. (2019). Service quality measurement in higher education: The case of registrar's office. *Journal of Higher Education & Science*, 9(1), 123-133. Retrieved from <https://dergipark.org.tr/en/pub/higheredusci/issue/61505/918443>
- Bakrie, M. Sujanto, B. & Rugaiyah, R. (2019). The Influence of service quality, institutional reputation, students' satisfaction on students' loyalty in higher education institution. *International Journal for Educational and Vocational Studies*, 1(5), 379-391. <https://doi.org/10.29103/ijevs.v1i5.1615>
- Binsardi, A., & Ekwulugo, F. (2003). International marketing of British education: research on the students' perception and the UK market penetration, *Marketing Intelligence & Planning*, 21(5), 318-327. <https://doi.org/10.1108/02634500310490265>
- Bloemer, J., de Ruyter, K., & Wetzels, M. (1999). Linking perceived service quality and service loyalty: a multi-dimensional perspective", *European Journal of Marketing*, 33(11/12), 1082-1106. <https://doi.org/10.1108/03090569910292285>
- Boulding, W., Kalra, A., Staelin, R., & Zeithaml, V.A. (1993). A dynamic process model of service quality: from expectations to behavioral intentions. *Journal of Marketing Research*, 30(1), 7-27. <https://doi.org/10.1177/002224379303000102>
- Brochado, A. (2009). Comparing alternative instruments to measure service quality in higher education", *Quality Assurance in Education*, 17(2), 174-190. <https://doi.org/10.1108/09684880910951381>
- Browne, B.A. Kaldenberg, D.O. Browne, W.G. & Brown, D.J. (1998). Student as customer: Factors affecting satisfaction and assessments of institutional quality. *Journal of Marketing for Higher Education*, 8(3), 1-14. https://doi.org/10.1300/J050v08n03_01
- Büyüköztürk, Ş. (2018). *Sosyal Bilimler İçin Veri Analizi El Kitabı*, Pegem Akademi Yayınları.

- Caruana, A. (2002). Service loyalty: The effects of service quality and the mediating role of customer satisfaction, *European Journal of Marketing*, 37(7-8), 811-828. <https://doi.org/10.1108/03090560210430818>
- Chandra, T., Hafni, L., Chandra, S., Purwati, A., & Chandra, J. (2019). The influence of service quality, university image on student satisfaction and student loyalty. *Benchmarking: An International Journal*, 26(5), 1533-1549. <https://doi.org/10.1108/BIJ-07-2018-0212>
- Chandra, T., Ng, M., Chandra, S., & Priyono, I.P. (2018). The effect of service quality on student satisfaction and student loyalty: an empirical study. *Journal of Social Studies Education Research*, 9(3), 109-131. Retrieved from <https://dergipark.org.tr/en/pub/jsser/issue/43625/534226>
- Chua, C. (2004). Perception of quality in higher education. In *Proceedings of the Australian Universities Quality Forum* (pp. 1-7). AUQA Occasional Publication. Available from Internet <http://www.auqa.edu.au/auqf/2004/program/papers/Chua.pdf>.
- Çelik, İ. (2010). Measuring perceived service quality in higher education: A research on post graduate students. Unpublished Master's Thesis, Eskişehir Osmangazi University Institute of Social Sciences.
- Çokluk, Ö. Şekercioğlu, G., & Büyüköztürk, Ş. (2012). *Sosyal Bilimler İçin Çok Değişkenli İstatistik SPSS ve Lisrel Uygulamaları*. Pegem Akademi Yayınevi.
- Dabholkar, P.A., & Shepherd, C.D. & Thorpe, D.I. (2000). A comprehensive framework for service quality: an investigation of critical conceptual and measurement issues through a longitudinal study. *Journal of Retailing*, 76(2), 139-173. [https://doi.org/10.1016/S0022-4359\(00\)00029-4](https://doi.org/10.1016/S0022-4359(00)00029-4)
- Datta, K.S., & Vardhan, J. (2017). A SERVQUAL-based framework for assessing quality of international branch campuses in UAE: A management students' perspective. *Sage Open*, 7(1), 1-9. <https://doi.org/10.1177/2158244016676294>
- De Jager, J., & Gbadamosi, G. (2010). Specific remedy for specific problem: measuring service quality in South African higher education. *Higher Education*, 60(3), 251-267. <https://doi.org/10.1007/s10734-009-9298-6>
- Dib, H., & Alnazer, M. (2013). The impact of sales promotion on perceived transaction value and purchase intentions: the moderating role of promotional benefit level. *International Journal of Economy, Management and Social Sciences*, 2(9), 731-736.
- Elliot, K.M. Shin, D. (2002). Student satisfaction: An alternative approach to assessing this important concept. *Journal of Higher Education Policy and Management*, 24(2), 197-209. <https://doi.org/10.1080/1360080022000013518>
- Erdoğan, A. & Şirin, E. F. (2020). the effect of the perceived risk factor on perceived service quality service value and satisfaction: an application on health and sports centers. *Sportmetre The Journal of Physical Education and Sport Sciences*, 18(4), 134-153. <https://doi.org/10.33689/sportmetre.688857>
- Erdoğan, A. (2020) *The effect of service quality and student satisfaction on loyalty and recommendation intention in universities: Example of sports science faculties*. Unpublished Doctoral Thesis, Gazi University Institute of Educational Sciences
-

- Eskildsen, J.K., Kristensen, K., & Juhl, H.J. (2000). The causal structure of the EFQM Excellence Model. In: MAAOE Conference Proceedings (pp. 75–83). Estes Park, CO: Multinational Alliance for the Advancement of Organizational Excellence (MAAOE).
- Fares, D., Achour, M., & Kachkar, O. (2013). The impact of service quality, student satisfaction, and university reputation on student loyalty: a case study of international students in IIUM Malaysia, *Information Management and Business Review*, 5 (12), 584-590. <https://doi.org/10.22610/imbr.v5i12.1091>
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50. <https://doi.org/10.1177/002224378101800104>
- Garcia, I., & Perez, R. (2011). Effects of dissatisfaction in tourist services: the role of anger and regret. *Tourism Management*, 32, 1397-1406. <https://doi.org/10.1016/j.tourman.2011.01.016>
- George, D., & Mallery, P. (2010). SPSS for Windows Step by Step. A Simple Study Guide and Reference (10.); Pearson Education: London, UK,
- Gerşil, M., & Güven, H. (2018). Measurement with Servqual analysis of service quality in universities: An application on Celal Bayar University. *cademic Review of Economics and Administrative Sciences*, 11(1), 111-125. <https://doi.org/10.25287/ohuiibf.310015>
- Giese, J.L., & Cote, J.A. (2000). Defining consumer satisfaction. *Academy of marketing science review*, 1(1), 1-22. <http://www.amsreview.org/amsrev/theory/giese00-01.html>.
- Gök, B. (2017). Evaluating of Service Quality and Efficiency of Distance Education Programs in Universities. Unpublished Doctoral Thesis, Gazi University Institute of Institute of Informatics.
- Gronholdt, L. Martensen, A. & Kristensen, K. (2000). The relationship between customer satisfaction and loyalty: cross-industry differences, *Total quality management*, 11(4-6), 509-514. <https://doi.org/10.1080/09544120050007823>
- Ha, J., & Jang, S. C. (2009). Perceived justice in service recovery and behavioral intentions: The role of relationship quality. *International Journal of Hospitality Management*, 28(3), 319-327. <https://doi.org/10.1016/j.ijhm.2008.12.001>
- Hartono, M., & Raharjo, H. (2015). Exploring the mediating role of affective and cognitive satisfaction on the effect of service quality on loyalty. *Total Quality Management & Business Excellence*, 26(9-10), 971-985. <https://doi.org/10.1080/14783363.2015.1068595>
- Helgesen, Q., & Nettet, W. (2007). Images, satisfaction and antecedents: Drivers of student loyalty? A case study of a Norwegian university collage. *Corporate Reputation Review*, 1(1), 38-59. <https://doi.org/10.1057/palgrave.crr.1550037>
- Hennig-Thurau, T., Langer, M.F., & Hansen, U. (2001). Modeling and managing student loyalty: An approach based on the concept of relationship quality. *Journal of service research*, 3(4), 331-344. <https://doi.org/10.1177/109467050134006>

- Hu, L.T., & Bentler, P.M. (1999). Cut-off criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives, *Structural Equation Modeling*, 6, 1-55. <https://doi.org/10.1080/10705519909540118>
- Huang, C.C., Wang, Y.M., Wu, T.W., & Wang, P.A. (2013). An empirical analysis of the antecedents and performance consequences of using the moodle platform. *International Journal of Information and Education Technology*, 3(2), 217-221.
- Huili, Y., & Jing, Y. (2012). Empirical research and model building about customer satisfaction index on postgraduate education service quality. *Canadian Social Science*, 8(1), 108-111. <http://dx.doi.org/10.3968/j.css.1923669720120801.1500>
- Hutcheson, G.D., & Sofroniou, N. (1999). The multivariate social scientist: Introductory statistics using generalized linear models. *London: Sage Publications*.
- İçli, G.E., & Vural, B.B. (2010). Kırklareli university vocational schools student satisfaction review under the framework total quality management and applications, *Marmara University Journal of Economic and Administrative Sciences*, 28(1), 335-349. Retrieved from <https://dergipark.org.tr/tr/pub/muiibd/issue/486/4139>
- Joseph, M., Yakhou, M., & Stone, G. (2005). An educational institution's quest for service quality: customers' perspective, *Quality Assurance in Education*, 13(1), 66-82. <https://doi.org/10.1108/09684880510578669>
- Kandie, H. K. 2018. Effects of service quality on students' satisfaction in libraries in Kenya using servperf model: Case of St Pauls' University in Kenya. *Archives of Business Research*, 6 (1), 117-133, <https://doi.org/10.14738/abr.61.3827>.
- Karacabey, M.F., Boyacı, A., & Özdere, M. (2002). The effect of factors that make up universities' organizational image on university selection and retention of students, *The Journal of International Education Science*, 3(9), 38-54.
- Karatekin Alkoç, Y. (2017). Research to understand the relationship between the image of the university, satisfaction in university and student loyalty. *IBAD Journal of Social Sciences*, 2(2), 270-280 . Doi: 10.21733/ibad.2135
- Kocapınar, E.B. (2002). *Service Quality measurement in higher education, an application*. Unpublished Master's Thesis, Marmara University Institute of Social Sciences.
- Kumar, S. & Dash, M.K. (2014). The INSTAQUAL scale: An instrument for measuring service quality of management institutions. *International Journal of Services, Economics and Management*, 6(4), 377-394. Doi: 10.1504/IJSEM.2014.068279
- Kunanusorn, A., & Puttawong, D.D. (2015), The mediating effect of satisfaction on student loyalty to higher education institution, *European Scientific Journal*, 1, 449-463. <http://ejournal.org/index.php/esj/issue/view/205>
- Leonnard, L. (2018). The performance of SERVQUAL to measure service quality in private university. *Journal on Efficiency and Responsibility in Education and Science*, 11(1), 16-21. <https://doi.org/10.7160/eriesj.2018.110103>
-

- Lin, H.H., & Wang, Y. S. (2006). An examination of the determinants of customer loyalty in mobile commerce contexts. *Information and Management*, 43(3), 271-282. <https://doi.org/10.1016/j.im.2005.08.001>
- Mahapatra, S.S., & Khan, M.S. (2007). A neural network approach for assessing quality in technical education: an empirical study. *International Journal of Productivity and Quality Management*, 2(3), 287-306.
- Malhotra, N.K., & Dash, S. (2016). *Marketing Research an Applied Orientation (Ketujuh)*. Chennai: Pearson India Education Services.
- Marimon, F., Mas-Machuca, M., Berbegal-Mirabent, J., & Llach, J. (2019). UnivQual: a holistic scale to assess student perceptions of service quality at universities. *Total Quality Management & Business Excellence*, 30(1-2), 184-200. <https://doi.org/10.1080/14783363.2017.1302795>
- Martensen, A., Gronholdt, L., Eskildsen, J.K., & Kristensen, K. (2000). Measuring student oriented quality in higher education: Application of ECSI method. *Sinergie Rapporti di Ricerca*, 18(9), 371-383.
- Martínez-Argüelles, M.J., & Batalla-Busquets, J.-M. (2016). Perceived service quality and student loyalty in an online university. *The International Review of Research in Open and Distributed Learning*, 17(4). 264-279. <https://doi.org/10.19173/irrodl.v17i4.2518>
- Mohamad, M., & Awang, Z. (2009). Building corporate image and securing student loyalty in the Malaysian higher learning industry, *Journal of International Management Studies*, 4(1), 30-40.
- Mosahab, R., Mahamad, O., & Ramayah, T. (2010). Service quality, customer satisfaction and loyalty: A test of mediation, *International Business Research*, 3(4), 72-80. Doi:10.5539/ibr.v3n4p72
- Mulyono, H., Hadian, A., Purba, N., & Pramono, R. (2020). Effect of service quality toward student satisfaction and loyalty in higher education. *The Journal of Asian Finance, Economics, and Business*, 7(10), 929-938. <https://doi.org/10.13106/JAFEB.2020.VOL7.NO10.929>
- Munteanu, C., Ceobanu, C., Bobâlcă, C., & Anton, O. (2010). An analysis of customer satisfaction in a higher education context. *International Journal of Public Sector Management*.
- Munteanu, C., Ceobanu, C., Bobâlcă, C., & Anton, O. (2010). An analysis of customer satisfaction in a higher education context. *International Journal of Public Sector Management*, 23(2), 124-140. <https://doi.org/10.1108/09513551011022483>
- Muthén, B.O., Muthén, L.K., & Asparouhov, T. (2017). *Regression and mediation analysis using Mplus*. Los Angeles, CA.
- Oliver, R.L. (1999), Whence consumer loyalty?, *Journal of Marketing*, 63 (Special Issue), 33-44.
- Onditi, E.O., & Wechuli, T.W. (2017). Service quality and student satisfaction in higher education institutions: A review of literature. *International journal of scientific and research publications*, 7(7), 328-335.
- Ong, W.M., & Nankervis, A. (2012). Service quality in higher education: Students' perceptions in Australia and Malaysia. *Review of Integrative Business and Economics Research*, 1(1), 277-290.
- Özenir, Ö., Avci, E., & Coşkuntuncel, O. (2018). Measuring the competencies of in-service elementary teachers' regarding designing activities in math course: A study of scale development. *Ihlara Journal Educational Research*, 3(2), 155-165. Retrieved from <http://ihead.aksaray.edu.tr/en/pub/issue/37860/443220>
-

- Özgül, E. & Devebakan, N. (2005). Comparative research of measuring perceived service quality with servqual technique in universities. *Journal of Administrative Sciences*, 3(2), 93-116.
- Perin, M.G., Sampaio, C.H., Simões, C., & de Pólvara, R.P. (2012). Modeling antecedents of student loyalty in higher education. *Journal of Marketing for Higher Education*, 22(1), 101–116. <https://doi.org/10.1080/08841241.2012.705797>
- Purgailis, M., & Zakska, K. (2012), The impact of perceived service quality on student loyalty in higher education institutions. *Journal of Business Management*, 2(6), 138- 152.
- Radiman, R., Gunawan, A., Wahyuni, S.F., & Jufrizen, J. (2018). The effect of marketing mix, service quality, islamic values and institutional image on students' satisfaction and loyalty. *Expert Journal of Marketing*, 6(2), 95–105.
- Rashid, T., & Raj, R. (2006). Customer satisfaction: Relationship marketing in higher education E-learning. *Innovative Marketing*, 2(3), 24-34.
- Rave, J. P., & Giraldo, L. M. (2015). ClassroomQual: A scale for measuring the use-of-classrooms-for-teaching-learning service quality. *Total Quality Management & Business Excellence*, 27(9-10), 1063-1090.
- Rojas-Méndez, J.I. Arturo, Z.V.P. Kara, A., & Arcadio, C.U. (2009). Determinants of student loyalty in higher education: A tested relationship approach in latin America. *Latin American Business Review*, 10(1), 21-39, <https://doi.org/10.1080/10978520903022089>
- Rowley, J. (2003), Designing student feedback questionnaires, *Quality Assurance in Education*, 11(3), 142-149. <https://doi.org/10.1108/09684880310488454>
- Saad, N. (2013). *Students' perceptions of higher education quality at Notre Dame University-Louaize in Lebanon*. Unpublished Doctoral Thesis, Saint Louis University.
- Sagib, G.K., & Zapan, B. (2014), Bangladeshi mobile banking service quality and customer satisfaction and loyalty, *Management & Marketing*, 9(3), 331-346.
- Saoud, S., & Sanséau, P.Y. (2019), Student loyalty through perceived service quality and satisfaction, *Advances in Social Sciences Research Journal*, 6(2), 171-185. <https://doi.org/10.14738/assrj.62.6106>
- Seyfullayev, H.E. (2015). The measure of service quality in higher education institutions: A research on public and foundation universities in Ankara. Unpublished Master's Thesis, Gazi University Institute of Social Sciences.
- Soni, S., & Govender, K. (2018). The relationship between service quality dimensions and brand equity: Higher education students' perceptions. *Journal of Management and Business Administration. Central Europe*, 26(3), 71–87. <https://doi.org/10.7206/jmba.ce.2450-7814.236>
- Sultan, P., & Yin Wong, H. (2013) Antecedents and consequences of service quality in a higher education context: A qualitative research approach", *Quality Assurance in Education*, 21(1), 70-95. <https://doi.org/10.1108/09684881311293070>
- Sümer, N. (2000). Structural equation modeling: basic concepts and applications. *Turkish Psychological Articles*, 3 (6) 49-74.
- Şimşek, Ö. (2007). The development of Marmara learning style inventory and investigating 9-11 age students learning styles Unpublished Doctoral Thesis, Gazi University Institute of Educational Sciences.
-

- Şirin, E.F., Erdoğan, M., & Çınar M. (2019). Examination of the relations among service quality of higher education, recommendation intention, satisfaction with the university and student loyalty: Faculty of sports science sample. 2. *International Conference On Sports For All And Wellness, 25-28 April, Antalya-Alanya. Turkey.*
- Tabachnick, B.G., & Fidell, L.S. (2007). *Using Multivariate Statistics*. (Fifth edition). NY: Allyn and Bacon.
- Talih, D. (2008). *An application related with service quality perceptions in the foreign language education institutions*, Unpublished Master's Thesis, Kocaeli University Institute of Social Sciences.
- Teeroovengadum, V., Nunkoo, R., Gronroos, C., Kamalanabhan, T.C., & Seebaluck, A.K. (2019). Higher education service quality, student satisfaction and loyalty Validating the HESQUAL scale and testing an improved structural model. *Quality Assurance in Education, 27*(4), 427-445.
- Topsakal, Y., & İplik, F.N. (2013). A research on determining the relationship between quality perceptions of university students with the level of satisfaction and recommendation. *Cag University Journal of Social Sciences, 10* (2) , 82-94 . Retrieved from <https://dergipark.org.tr/en/pub/cagsbd/issue/44626/554382>
- Türkel, M. (2017). *Measurement of service quality with SERVQUAL model and implementation in an educational institution*. Unpublished Master's Thesis, . Karadeniz Teknik University Institute of Social Sciences.
- Twaisi, N.M., & Al-Kilani, M.H. (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. <https://doi.org/10.5539/ibr.v8n5p81>
- Vargas-Hernández, J.G., & Ibarra, S T.C. (2016). Evaluating Higher Education Institutions through Agency and Resources-Capabilities Theories. A Model for Measuring the Perceived Quality of Service. *Independent Journal of Management & Production, 7*(4), 1126-1153. <http://www.redalyc.org/articulo.oa?id=449549377008>
- Voss, R., Gruber, T., & Szmigin, I. (2007). Service quality in higher education: The role of student expectations. *Journal of Business Research, 60* (9), 949-959. <https://doi.org/10.1016/j.jbusres.2007.01.020>
- Yildiz, S.M., & Kara, A. (2009). The PESPERF scale: An instrument for measuring service quality in the School of Physical Education and Sports Sciences (PESS), *Quality Assurance in Education, 17*(4), 393-415. <https://doi.org/10.1108/09684880910992359>
- Yılmaz, V., Filiz, Z., & Yaprak, B. (2007). Service quality measurement in the turkish higher education system with servqual method. *Anadolu University Journal Of Social Sciences, 7*(1), 299-316.
- Yousapronpaiboon, K. (2014). SERVQUAL: Measuring higher education service quality in Thailand. *Procedia-Social and Behavioral Sciences, 116*, 1088-1095. <https://doi.org/10.1016/j.sbspro.2014.01.350>
- Yu, G.B., Kim, J.H. (2008). Testing the mediating effect of the quality of college life in the student satisfaction and student loyalty relationship, *Applied Research Quality Life, 3*, 1-21. <https://doi.org/10.1007/s11482-008-9044-8>
- Zeithaml, V.A. Berry, L.L., & Parasuraman, A. (1996). The behavioral consequences of service quality. *Journal of Marketing, 60*(2), 31-46. <https://doi.org/10.1177/002224299606000203>
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