



# MALAYSIAN ONLINE JOURNAL OF EDUCATIONAL MANAGEMENT (MOJEM)

JANUARY 2021, VOLUME 9, ISSUE 1, 58-76

E-ISSN NO: 2289 – 4489

## SERVICE QUALITY ASSESSMENT AND STUDENT SATISFACTION IN BUSINESS SCHOOLS: MEDIATING ROLE OF PERCEIVED VALUE

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### ABSTRACT

This study was conducted with the objective of investigating service quality assessment, identification of quality gaps regarding service provision using SERVQUAL. It also examined the impact of perceived value as mediating variable between relation of perceived service quality and student satisfaction. A sample of 265 respondents from public and private business schools of Lahore, Pakistan was selected for this study. A structured questionnaire developed around SERVQUAL dimensions was used to receive feedback from respondents using random sampling technique. Data was analysed through SPSS 21.0 for gap and mediation regression. Results showed overall service quality gap in business schools was negative (-.128). Gap was also negative in five SERVQUAL dimensions with highest in tangibles (-.265) and least in empathy (-.037). Results showed students' expectations exceeded their perceptions resulting in dissatisfaction. Hypothesis for institutional difference was also partially supported. Findings shows partial mediation of perceived value between f perceived service quality and student satisfaction, as predictor variable remained significant after controlling for mediator. The findings are in alignment with previous research studies. Based upon study findings, it is recommended to management and policy makers of business schools to make resource allocation and revisions in quality policy incorporating students' valuable feedback.

**Keywords:** SERVQUAL, Service Quality, Perceived Value, Student Satisfaction

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## INTRODUCTION

Over the last decade, management education has become most demanding subject of interest for students in Pakistan who are attaining higher education. This positive trend towards business studies resulted in greater concerns for quality by HEC, more available choices for students, increased competition among the Business schools where brand differentiation was a big challenge (Saeed & Ehsan, 2010). Furthermore, the ranking of B-schools by few international organizations like Financial Times also shows the importance of service quality in the aforementioned sector (Karami & Olfati, 2012). At the moment, quality is being delivered in inadequate perspective by only some B- schools in Pakistan, and business schools have not been capable to focus efficiently to deliver its students quality service (Qureshi et al., 2008). A number of private and foreign competitor business institutes have entered Pakistan market and are striving to attract students by delivering superior services (Zeshan et al., 2014).

Greater pressure is being faced by public business schools from its rivals and stakeholders in private sector. Hence, it is required for institutions in public sector to devise strategies and constantly check educational quality to satisfy their clients and stakeholders, and achieve competitive gain (Ijaz et al., 2011). Difference of service quality exists in private and Government universities of Pakistan. Overall, service quality of Government universities is lower compared to private sector universities. Planning, administration and management practices in higher education systems need to be improved (Mukhtar et al., 2015). Quality of services and students' satisfaction level in business education is quite higher in private sector as compared to public sector universities of Pakistan. As a result, satisfaction level of students in private sector universities is higher as compared to public sector. Hence, significant room exists for improvement in HEIs of Pakistan, though the improvement areas differ for both types of institutions. Private sector universities need to improve its intangible resources to create a true learning environment and public sector universities need to improve physical and tangible resources to facilitate students (Ahmed et al., 2016). Pressure is increasing from the customers of business education to close the gap between their expectations and actual performance of business schools. But unfortunately, only few studies have been conducted on the quality assessment of business schools so far. Assessment is vital for B-schools to actively monitor the service quality to improve according to the demands of stakeholders (Zeshan et al., 2014). Business schools should ensure the service quality delivered to students in terms of perceptions of students and their expectations. This procedure can aid business schools to develop and implement strategies and standards and most importantly in fulfilling expectations of students. For business schools, therefore assessment of quality is very imperative to increase student number, and enhancement of quality can be very supportive to obtain additional funding from Government (Ilyas et al., 2013). Hence, business schools are required to have continuous appraisal mechanism and should also incorporate feedback from all stakeholders, predominantly students and faculty (Rauf et al., 2010). Business schools of Pakistan must get feedback regularly from students and action should be taken on students' grievances and suggestions to augment their satisfaction (Malik et al., 2012).

When considering value from the students' perspective, students have spent money, time, effort and opportunity costs to obtain the benefits of higher education experiences offered by the institutions (Roostika, 2009). Customers expect a significant return on any educational investment they make (Kotler & Fox, 1995). Education is both a consumable as well as an investment of services or goods (Webb & Jagun, 1997). By making the educational investment, a question which is commonly raised relating to the academic degree, financial expenditure and personal goals was, which of the institutions will the students choose to obtain the services that will be best for them? (Kotler & Fox, 1995). Different marketing approaches are required to survive in education market. A comprehensive model relating to service quality, satisfaction and customer value has been examined in the field of general services marketing and has been shown to exert significant influence on behavioural intentions. Considering that, it is vital to pursue marketing approaches in managing higher education institutions. Higher education (HE) sector, as a service sector, should also benefit from understanding the same marketing framework. These views justify the importance of examining service quality, customer value and customer satisfaction in the higher education (HE) area (Roostika, 2009).



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## **Objectives**

On the basis of prevailing limited research in quality assessment of business schools of Pakistan, the case is evident for importance of viewing service quality from the students' perspective. Therefore, this study is aimed at assessment of service quality delivered by public & private sector business schools of Pakistan, and investigating students' expectations and perceptions as customers of business schools. Impact of perceived value on association between perceived service quality and students satisfaction will also be determined. It will also investigate if there is an institutional difference in terms of service quality in public and private business schools from students' viewpoints. The following objectives are proposed for this study:

1. To find out difference in students' opinion regarding their perceptions and expectations about service quality between private and public business schools.
2. To find out mediating impact of perceived value in relation of perceived service quality (PSQ) with students' satisfaction (SS) in business schools.

## **LITERATURE REVIEW**

### ***Need for Service Quality Assessment in Business Schools***

Service quality (S.Q) is "a measure of how well service level delivered matches the customer's expectations" (Lewis & Booms, 1983). During last decade, globalization has resulted in increasing demand for trained business managers and professionals all over the globe and also in Pakistan. This trend has generated a renewed interest among youth for business education (Waseem & Zarif, 2012). B-schools play a major part in developing management experts and enable students to lead their industry (Ijaz et al., 2011). MBA is seen as a degree to raise one into corporate success with high salaries and status. Due to growing curiosity about such programs, there exists a need for an assessment of service quality business schools by involving major stakeholders i.e. students and management by ascertaining their perceptions (Ramachandran & Padmanaban, 2014). Hence, a monitoring system is needed to control the quality deprivation and getting regular feedback from students as well as by users of the product (Rahim, 2013).

The missing focus of business schools on the inputs and service delivery process leads to improper service quality, which certainly obstructs the brand image of the institute. Inputs must be designed so carefully that the needs and wants of the students are considered to a large extent. Moreover, the service delivery process must be monitored at regular intervals (Kamble & Sarangdhar, 2015). Institution quality factors lead to overall satisfaction of the students (Ravindran & Kalpana, 2012). Particularly for educational services, it is required to evaluate quality from students' perspective. Therefore, HEIs management and educational marketers are required to consider students' motives in assessing service quality during educational planning to enhance their level of service quality (Min & Khoon, 2013). In both public & private sectors, quality of education is a vital factor to be considered for attracting and retaining the students (Malik et al., 2010).

### ***Measurements / Dimensions of Service Quality Used in Higher Education Sector***

Different measures of service quality have been used by various researchers for service quality (S.Q) assessment in higher education (HE) division which are presented in Table 1.



Table 1

*Determinants /Dimensions of Quality Assessment in HEIs & Business Schools*

Researcher(S)	No. of factors	Determinants / Dimensions
1.Parasuraman et al. (1988)	5	Reliability, empathy, responsiveness, assurance, tangibles.
2.Cronin and Taylor (1992)	5	Reliability, empathy, responsiveness, assurance, tangibles.
3.LeBlanc and Nguyen (1997)	7	Responsiveness, reputation, faculty, administration, curriculum, access to facilities, and physical evidence.
4.Abdullah (2006)	6	Reputation, academic aspects, understanding, access, program issues, non-academic aspects.

**Service Quality Assessment in HEIs and Business Schools Using SERVQUAL**

The present study uses SERVQUAL dimensions by Parasuraman et al. (1988) for assessing service quality (S.Q).

**History of SERVQUAL**

SERVQUAL instrument developed by Parasuraman et al. (1988) was founded on gap five of gap model by the same authors earlier in 1985. Fundamental thought of SERVQUAL model was that service quality (S.Q) was a function of the disparity or gap between customer's perceptions (P) and expectations (E). According to the SERVQUAL scale, service quality (Q) is calculated by the equation: Service Quality (Q) =Perceptions (P) –Expectations (E). SERVQUAL model is shown in Fig.1Original SERVQUAL scale included ten (10) dimensions, which by further testing were reduced to five (5) by Parasuraman et al. (1988) as follows:

1. Tangibles: "Include physical facilities, buildings, equipment, and appearance of employees, etc."
2. Reliability: "The capability to provide the promised service accurately and constantly."
3. Responsiveness: "Willingness of staff to provide service promptly and help customers."
4. Empathy: "Attention and care provided to individual customer."
5. Assurance: "Courtesy, knowledge of personnel, and their ability to convey confidence and trust."

**Previous research Studies Using SERVQUAL in HEIs and Business Schools**

SERVQUAL has been found to be reliable, valid and consistent instrument by the researchers for assessment of service quality (Mukhtar et al., 2015). HEIs may improve their services by applying dimensions of SERVQUAL (Yousapronpaiboon, 2014). Management, employees and faculty in HEIs will take advantage by identifying gaps between students' expectations & their perceptions of service quality (Singh, 2016). SERVQUAL approach provides relative information regarding areas in which improvement is needed (Donlagic & Fazlic, 2015). Table 2 presents the findings of previous research studies using SERVQUAL instrument.



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Table 2

*Findings on Service Quality Assessment and Gaps using SERVQUAL*

Author /Year	Country	Key Findings
1. Ilyas et al. (2013)	Pakistan	Negative quality gaps in all dimensions, with highest in reliability perceived by post graduate students. 63% of students showed negative value for service quality, 34% had positive value and 3% had neutral views.
2. Chopra et al. (2014)	India	Negative quality gaps in all dimensions with highest in empathy (-0.92) and lowest in assurance (-0.69)
3. Fayzabadi et al. (2015)	Iran	Negative gaps in all dimensions, with highest in responsiveness (-1.56) and least in assurance (-1.18).
4. Mwangoso et al. (2015)	Tanzania	Negative quality gaps in all dimensions, with highest gap in tangibles (-1.75) and lowest in empathy (-1.52).
5. Sardar et al. (2016)	Pakistan	Overall quality gap of 7.6% between expectations and perceptions. Results showed reliability as most critical dimension.
6. Afridi et al. (2016)	Pakistan	Negative quality gaps in all dimensions, with highest in responsiveness (-1.56) and least in assurance (-1.18).

### ***Perceived Customer Value and Measurement Dimensions***

In higher education (HE) sector, the influence of customer value is still limited and remains unexplored. This highlights the importance of customer value in higher education (HE) sector (Rintamaki et al., 2007). The similarity between service quality and customer value is that both constructs are cognitive. However, disparity between service quality and value is that unlike service quality assessment (overall excellence) value requires a trade-off between benefits and sacrifices (Choi et al., 2004). Customer's appraisal of value depend on sacrifice (monetary & nonmonetary costs linked with use of service), customer traits and consumer intention (CI), perceived value (PV). Perceived value (PV) can be assessed with either a one-dimensional self-reported scale (Gale, 1994) or a multi-dimension measure (Petrick & Backman, 2002; Sheth et al., 1991). One-dimension approach measures value by using a limited number of items to measure the overall perception of value. So far, almost every study involving customer value in service context uses Zeithaml's (1988) approach. Little consensus has been reached among researchers on the dimensionality of customer value (Roostika, 2009). But, Chen and Chen (2010) pointed out that validity of one-dimensional scale was for eternity criticized on account of its postulation that customers had a mutual meaning of value. Sheth et al. (1999) maintained that by operationalizing perceived value (PV), one-dimensional measure could conquer validity dilemma. For example, a five-dimensional construct formed of emotional, social, functional epistemic and conditional responses. SERV-Perval instrument was proposed by Petrick and Backman (2002) to determine perceived value (PV). Table 3 presents overview of multidimensional approaches to define perceived customer value.



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Table 3

*Multidimensional approaches to define perceived customer value*

Author (S) / Context	Types of Components	Benefit components of customer value	Sacrifice Components
De Ruyter et al. (1997)- Hotel Service	Reflective	Emotional value, practical value and logical value.	
Sweeny and Soutar (2001) -Durables	Reflective	Emotional value, social value and functional value due to quality.	Functional value due to price
Lin et al. ( 2005)- Web Services	Reflective and formative	Web site design, fulfilment/reliability, security/privacy and customer service	Monetary sacrifice
Whittaker et al. ( 2007) -business services	Reflective and formative	Functional, epistemic, emotional, social and image	Price/quality

Source: Ruiz et al. (2008) cited in Roostika (2009)

### ***Importance of Student Satisfaction for HEIs & Business Schools***

Positive student experiences are very significant for institution as students who become satisfied, they are more probably keep on staying with their institute (Yusoff et al., 2015). Increasing competition for students among colleges and universities has resulted in greater focus on student retention. As student satisfaction and service quality are vital factors in students' retention, it is vital for business schools to measure service quality (Pariseau & McDaniel, 1997). Particularly for educational services, it's required to evaluate quality from students' perspective. Therefore, HEIs management and educational marketers are required to consider students' motives in assessing service quality during educational planning to enhance their level of service quality (Min & Khoon, 2013). A reduction in student numbers results in available budgeted funds for operations, maintenance & development of a private institution (Asaduzzaman, Hossain, & Rahman, 2013) Positive students' experiences are vital for institution as students who are satisfied more probably remain stayed with institute. Quality factors lead to overall satisfaction of the students (Ravindran & Kalpana, 2012).

### **RESEARCH MODEL AND HYPOTHESES**

#### ***Research Model***

Current study applied conceptual model based upon SERVQUAL five dimensions by Parasuraman et al. (1988) which included tangibles, reliability responsiveness, empathy and assurance. According to the SERVQUAL scale, service quality (Q) is calculated by the equation: Service Quality (Q) = Perceptions (P) – Expectations (E). Service quality gap scores will be determined by applying equation (1). While Proposed research model presented in fig. 2 based upon SERVQUAL dimensions will be applied. Perceived service quality (PSQ) determined by SERVQUAL is independent variable (IV) in the study, considers service performance part of SERVQUAL. Student satisfaction (SS) is dependent variable (DV) and perceived value (PV) is mediating variable (MV).



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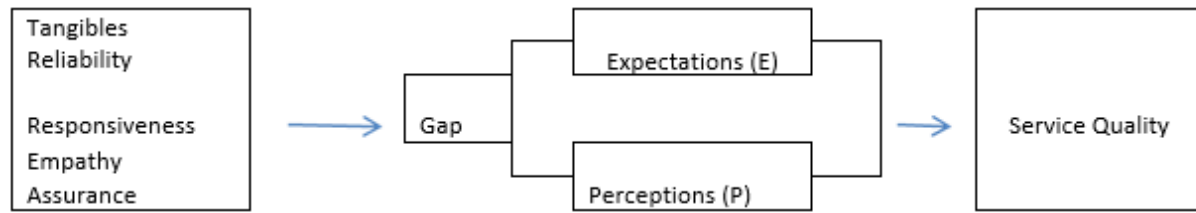


Figure 1. SERVQUAL Model by Parasuraman et al., (1988) for Gap analysis

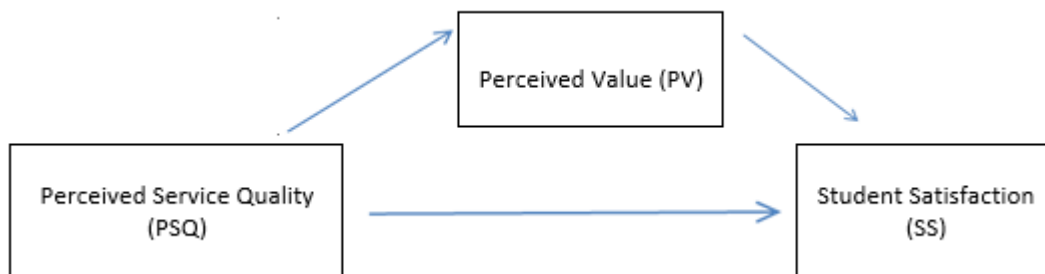


Figure 2. Conceptual model based on SERVQUAL with mediating variable

## Research Hypotheses

Following hypotheses will be tested for this study:

- H1: There is statistically significant difference between students' expectations (E) and their perceptions (P) of service quality (S.Q) in five SERVQUAL dimensions of business schools.
- H2: There is statistically significant difference in students' expectations (E) and their perceptions (P) of service quality when compared between public and private institutions.
- H3: Perceived value (PV) mediates relation of perceived service quality (PSQ) with students' satisfaction (SS) in business schools.

## METHODS

### Research Design

Deductive and Quantitative approach was applied in this research study. Survey method using self-administered questionnaire was used as primary data collection technique. A structured questionnaire developed around SERVQUAL dimensions was developed to get feedback from students using sample of 265 respondents from public and private sector business schools.

### Sampling Design

Unit of Analysis for the study was student who had first-hand service experience in his / her Business School. Study population comprised of currently enrolled students studying in bachelor, master, and PhD level at HEC recognized public and private sector Business schools in different universities of Lahore, Pakistan. A sample of total 265 respondents (currently enrolled students) from public and private sector Business schools and random sampling technique was used to choose respondents from business schools.



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## **Data Collection Tool**

Research instrument comprised of four (4) Sections including demographic part a and other three parts comprising of 44 statements on Likert five (5) point scales.

- *Section I:* included information regarding demographic profiles of respondents including: gender; qualification, age, academic year and university type.
- *Section II:* After reviewing the literature, questionnaire was developed around SERVQUAL developed by Parasuraman et al. (1988) including five (5) quality dimensions for recording students' perceptions and expectations of service quality on a five point Likert scale. Modified SERVQUAL questionnaire was used in this study consisting of five SERVQUAL dimensions. Items were rephrased to make them suitable in Pakistan business schools context. Items capturing each part were adopted from questionnaires by earlier researchers (Ijaz et al., 2011; Mwongoso et al., 2015; Parasuraman et al., 1988; Zeshan et al., 2014) which they used in assessing service quality of HEIs and business schools. This section included 32 matching statements to record students' expectations and perceptions across five quality dimensions (tangibles, reliability, responsiveness, empathy and assurance).
- *Section III:* This section included include six (6) statements to record students' perceived value (PV) on Likert five point scale. Statements were adopted from research study of Roostika, (2009).
- *Section IV:* This section included six ( 6) statements to record students' satisfaction on Likert five point scale. Statements in this part were adopted from Roostika, ( 2009).

## **Collection of Data**

After pilot testing, questionnaire was administered for data collection. Researcher opted for self-administered survey using direct contact due to easy accessibility to respondents.

## **Data Analysis Techniques**

As quantitative research approach was adopted for this study, therefore data was analysed applying SPSS 21 software for service quality gap analysis, Paired t-tests, ANOVA. And process macro SPSS 32 version was used for mediation regression analysis. Reliability, normality tests were applied to check reliability and data normal distribution. Paired & independent t-test were applied to test study hypothesis for gap analysis and find out significant differences between students' expectations and perceptions of service quality, and institutional difference. Mediation regression analysis was conducted to test impact of perceived value (PV) as mediating variable.

## **RESULTS**

This section presents test results and analysis using SPSS 21 and process macro 32 to test study hypotheses.

### **Test of Normality**

Table 4 present normality test results. As sample size was > than 50 respondents (N=265), therefore normality of data was checked applying Kalmogorov-Smirnov test. It is assumed for null hypothesis (H<sub>0</sub>) of all variables under study that "data are normally distributed". Results indicated insignificant p-values ( $p > 0.05$ ) for all factors. Hence, it was concluded that data followed normal distribution and data could be analysed by applying parametric tests, and was appropriate for mediation regression analysis.





Table 4  
*Kalmongorov –Smirnov Test of Normality*

	Statistic	Sig.		Statistic	Sig.
Tangibles (P)	.054	.061	Empathy (E)	.054	.062
Tangibles (E)	.053	.064	Assurance(P)	.054	.060
Reliability (P)	.054	.062	Assurance (E)	.053	.074
Reliability (E)	.054	.063	Perceived service quality	.044	.200
Responsiveness (P)	.054	.063	Expected service quality	.035	.200
Responsiveness (E)	.054	.059	Student satisfaction	.052	.077
Empathy (P)	.053	.067	Perceived Value	.052	.085

\*significant at  $p < .05$

### **Scale Reliability**

After reviewing the literature, service quality scale was developed around SERVQUAL instrument developed by Parasuraman et al., (1988) including five (5) quality dimensions. While scales for student satisfaction and perceived value were also adopted from earlier researcher, Roostika, (2009). All scales recorded students' feedback on Likert 5-point scale. The items that captured each part were partly developed by the researcher and partly from questionnaires by earlier researchers. Reliability of questionnaire was checked through pilot testing of 30 respondents on study population similar to the target population. It was appropriate to acquire information directly from students regarding their opinions about service quality of their B-school. Therefore, a survey method using self-administered questionnaire was used.

Table 5 presents Cronbach's alpha values for factors of questionnaire. Reliability of instrument was checked applying Cronbach alpha. An alpha value greater than 0.70 for all factors shows a good indication of construct reliability" (Nunnally, 1978). "Value ranging between zero (0) & one (1) provides more reliability" (Nunnally & Bernstein, 1994). Test results showed that values of coefficient  $\alpha$  were greater than acceptable Cronbach alpha value of 0.70 in all factors. Hence, it was confirmed that factors were reliable and data was suitable for additional analysis.

Table 5  
*Test of Scale Reliability*

	# of Items	Cronbach's Alpha		# of Items	Cronbach's Alpha
Tangibles (P)	7	.706	Assurance(P)	6	.847
Tangibles (E)	7	.703	Assurance (E)	6	.896
Reliability (P)	7	.776	Perceived Service	32	.906
Reliability (E)	7	.848	Expected Service	32	.908
Responsiveness (P)	6	.813	Perceived Value	6	.808
Responsiveness (E)	6	.909	Student Satisfaction	6	.886
Empathy (P)	6	.791			
Empathy (E)	6	.916			



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## *Demographic Profiles of Respondents*

Demographic Profiles of respondents are reported in table 6. Sample comprised of 265 currently enrolled students including 132 (49.8 %) from public sector and 133 (50.2 %) from private sector business schools. Participants included 126 males (47.5 %) and 139 females (52.5 %). Majority of students were between age group of 21-25 year 155 ( 58.5 % ) , followed by students in age group of 16-20 years 76 ( 28.7 %) and only 34 ( 12.8 %) belonged to other age groups .Respondents enrolled in three different programs at their respective business school including 145 ( 54.7 %) master level, followed by 118 ( 44.5 %) BS level and only 2 ( 0.8 %) PhD level students. Majority of students were enrolled in 2<sup>nd</sup> year 113 (42.6 %), followed by 1<sup>st</sup> year 101 (38.1 %) and only 51 (19.2 %) were either 3<sup>rd</sup> or 4<sup>th</sup> year students.

Table 6  
*Demographic profile of Respondents*

	Frequency		%		Frequency		%
Gender:							
Male	126		47.5				
Female	139	265	52.5	100			
Age (year):							
16-20	76		28.7				
21-25	155		58.5				
26-30	28		10.6				
31-35	4		1.5				
Above 35	2	265	0.8	100			
Institution:							
Public	132		49.8				
Private	133	265	50.2	100			
Academic Year:							
First year	101		38.1				
Second year	113		42.6				
Third year	20		7.5				
Fourth year	31	265	11.7	100			
Degree Level:							
BS	118		44.5				
Master	145		54.7				
PhD	2	265	0.8	100			



***Service quality (perception / Expectation/) Gap Analysis & H1 Hypothesis Testing***

Service quality (S.Q) according to the formula developed by Parasuraman et al., (1988), is stated as follows: Service Quality (Q) = (Perceptions (P) –Expectations (E)).....eq 1  
 Equation 2 was used to determine average SERVQUAL dimensional and over all scores for expectation (E) & perception (P). Variable Average=  $\frac{\sum x_i}{n}$ .....eq 2

Tables 7 presents average mean dimensional & Servqual scores, standard deviation for expectations (E) and perceptions ( P) constructs along with service quality gaps (Q.G = P–E) for Business schools; ranking of SERVQUAL dimensions based upon quality gaps & paired t-test result.

***Students’ Perceptions (P) of Service Quality***

Results indicated tangibles dimension (M=3.80) scored highest, followed by assurance (M=3.74), empathy (M=3.70), reliability (M=3.66) and responsiveness being the least scored dimension (M=3.65). Overall results showed students perception was above average of neutral 3.0 score. But dimensional and overall perception (P) scores were lower compared to expectation (E) mean scores.

***Students’ Expectations (E) of Service Quality***

Results indicated tangibles dimension (M=4.06) scored highest, followed by reliability (M=3.86), assurance (M=3.79), responsiveness (M=3.74) and empathy (M=3.74) being the least scored dimensions. Overall results showed students expectations were above average of neutral 3.0 score. But dimensional and overall expectation (E) scores were higher compared to perception (p).

***Service Quality (S.Q) Gap Analysis (P-E) and Ranking of Quality Dimensions***

Table 7 presents S.Q gap scores and ranking of SERVQUAL dimensions based upon gap scores. Highest gap was identified in tangibles (Q.G= -.265), followed by reliability (Q.G=-.195), responsiveness (Q.G=-.089), assurance (Q.G=-.055) & empathy indicated least gap score (Q.G=-.037) .Overall SERVQUAL gap was also negative (Q.G=-.128).Results showed business students overall expectations (E) exceeded their perception (P) of service quality resulting in negative gaps. Hence, results showed students’ expectations exceeded their perceptions resulting in dissatisfaction.

***Paired t-Test for Hypothesis H1***

To test whether quality gaps between perceptions and expectations were significant or not, paired t-test was conducted. Results showed significant p values < 0.05 in all service quality dimensions and overall gap was also significant between expectations and perceptions. Hence, H1 was supported.

Table 7  
***Mean Scores of E, P, Q.G, SERVQUAL dimensions and Paired t-test (N = 265)***

Dimensions	Perception (P) Mean ±SD	Expectation (E) Mean ±SD	Gap- Q.G (P-E) P-E±SD	Ranking On basis of Gaps	t	p
Tangibles Pair 1: (P-E)	3.800±.635	4.065±.570	-.265±.551	1	-7.837	.000



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Reliability Pair 2: (P-E)	3.661±.741	3.856±.691	-.195±.528	2	-5.996	.000
Responsiveness Pair 3: (P-E)	3.649 ±.784	3.738±.743	-.089±.479	3	-3.010	.003
Empathy Pair 4: (E-P)	3.699 ±.774	3.736±.779	-.037±.257	5	-2.354	.019
Assurance Pair 5: (P-E)	3.741 ±.6824	3.796 ±.6824	-.055 ±.284	4	-3.172	.002
Overall	3.710 ±.539	3.838 ±.476	-.1282 ±.237		-8.811	.000

### **Gap analysis of Institutional S.Q Difference & H2 Hypothesis Test**

Table 8 presents mean, gap scores and independent t-test results for institutional service quality difference of public and private Business schools.

#### **Institutional mean and Gap Scores**

Results indicated a significant difference at five percent (5%) significance level between institutional service quality (S.Q) of public and private business schools. Students of both type of institutes differed significantly with regard to their perception and expectations of service quality in most of dimensions. Results indicated that over all perception (M=3.80) & expectation (M =3.89) average mean scores in private business schools were higher as compared to public sector business school's perception (M =3.61) and expectation (M =3.78) average mean scores.

#### **Test Results of Hypothesis H2**

Independent t –test ANOVA was applied to examine whether gaps were significant or not. ANOVA assumes equal variance between compared groups. To test this assumption, Levene's test of equality of variance was conducted and insignificant p-value > 0.05 in SERVQUAL dimensions showed same variance between both groups. Hence, assumption of equal variance was assumed for further interpretation of results. Results of ANOVA indicated p value was statistically significant (p < 0.05) in most of SERVQUAL dimensions except insignificant p value > 0.05 in E-Tangibles (p=.073), P-assurance (p=.806) and E-assurance- (p=.238). Overall SERVQUAL expectations (E) & perceptions (P) were also significant. Hence, H2 for institutional difference was partially supported.

Table 8

#### **Independent t-Test for Institutional Difference**

Dimensions	Public Institutes Mean ±SD	Private Institutes Mean ±SD	Mean Dif.	Levene's Statistics Sig.	p
Tangibles -P	3.711±.054	3.888±.055	-.177	.561	.023
Tangibles –E	4.000±.548	4.128±.587	-.128	.344	.073
Reliability-P	3.486±.065	3.835±.060	-.349	.326	.000
Reliability-E	3.758±.697	3.954±.672	-.196	.592	.020
Responsiveness-P	3.534±.068	3.764±.067	-.230	.669	.017
Responsiveness-E	3.640 ±.750	3.836±.725	-.196	.957	.032
Empathy -P	3.589 ±.777	3.807±.066	-.218	.483	.022



Empathy -E	3.641 ±.789	3.829±.761	-.188	.450	.049
Assurance -P	3.751 ±.676	3.731 ±.691	-.020	.970	.806
Assurance -E	3.846 ±.659	3.747 ±.703	.099	.558	.238
Perception (P)	3.614 ±.538	3.805 ±.526	-.191	.944	.004
Expectation (E)	3.777 ±.466	3.898 ±.479	-.121	.657	.038

**Impact of PV on relation between PSQ & SS and Mediation Hypothesis H3 Test results**

Study data were analyzed by mediation regression analysis applying Process macro SPSS 21.0 software to investigate H3 mediation hypothesis.

**Assumption of Normality**

Data were normally distributed. Normality test results are already discussed under Section 5.1.

**Pearson Correlation Test to check linear Correlation Assumption**

Mediation Regression analysis also assumes that some linear correlation must exist between mediating variable, predictor and dependent variable. The Pearson product moment correlation coefficients (r) were used to test this assumption. Test results shown in table 10 indicated there existed positive and statistically significant correlation between PV and SS ( $r=.786$ ), (P- value < 0.01), between PV and PSQ ( $r=.691$ ), (P- value < .01); and between student satisfaction (SS) and PSQ ( $r=.647$ ), (P- value <0.01). This means with increase in one variable other also increases or vice versa.

Table 9  
*Pearson Correlation Test Results*

	PV	SS	PSQ
PV	1.000	.786	.691**
SS		1.000	.647
PSQ			1.000

\*\*Significant at  $p<0.01$  level (2-tailed)

**Model Information**

Table 10  
*Variables and Model information*

Hayes Process model	Predictor (X)	Mediator (Me)	Dependent Variable (Y)	Sample Size
Model #4	Perceived Service Quality (PSQ)	Perceived Value (PV)	Student Satisfaction (SS)	265

**Mediation Regression Analysis and Hypothesis H3 Test**

Table 11 presents results of mediation regression analysis using SPSS process macro 32. Series of regression equations were applied to test mediation impact of perceived value (PV) on relation of perceived service quality (PSQ) and student satisfaction (SS).Results indicated that perceived service quality (PSQ) was a significant



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predictor of perceived value (PV),  $B=.899, SE=.0579, p < .05$ . Findings also showed that perceived service quality (PSQ) was also significant predictor of student satisfaction ( $R\text{-square}=.419, F(1,263) = 189.71, p < 0.05$ ). Results also indicated that perceived value (PV) was also a significant predictor of student satisfaction (SS),  $B=.6433, SE=.0511, p < .05$ . These results supported the mediation hypothesis. But perceived service quality (PSQ) remained significant predictor of satisfaction after controlling for the mediator, perceived value (PV),  $B=.2578, SE=.0664, p < .05$  indicating partial mediation. Approximately, 63.8% of variance in student satisfaction (SS) was contributed by the predictors ( $R\text{-square}=.638, F(2, 262) = 231.0766, p < .05$ ).

Table 11  
*Mediation Regression Analysis*

	R <sup>2</sup>	MSE	F	Effect B	SE	t	p	95%- LLCI	95%- ULCI
a. Outcome Variable: Perceived Value:									
Model	.4777	.2582	240.553				.0000		
Summary									
Constant				.3644	.2172	1.6774	.0947	-.0634	.7921
PSQ				.8987	.0579	15.5098	.000	.7846	1.0128
b. Outcome Variable: Student Satisfaction:									
Model	.6382	.1771	231.076				.0000		
Summary									
Constant				.3696	.1809	2.0434	.0420	.0135	.7258
PSQ				.2578	.0664	3.8826	.0001	.1271	.3886
PV				.6433	.0511	12.5973	.0000	.5428	.7439
c. Outcome Variable: Student Satisfaction:									
Model	.4191	.2833	189.712				.0000		
Summary									
Constant				.6040	.2275	2.6545	.0084	.1560	1.0521
PSQ				.8360	.0607	13.7736	.0000	.7165	.9555

\* Sample bootstrap number for confidence interval: 5,000

\*\* Confidence level for all confidence intervals in the output: 95%

### **Total and Direct Effects**

Table 12 presents the results of total and direct effects of perceived service quality (predictor -X) on student satisfaction (dependent variable-Y). Total effect (c) is sum of direct effect of perceived service quality (PSQ) on student satisfaction (SS) and mediating (indirect) effect (ab). It can be statistically written as  $c = (c' + ab = .2578 + .5782 = .8360, (SE=.0607, T=13.7736, p < 0.05, LLCI=.7165, ULCI=.9555)$  didn't include 0, indicating it had statistically significant p value,  $< 0.05$ , which further confirmed its significance. Based on 5,000 bootstraps, a confidence interval of 95% indicated that direct effect (c') of perceived service quality (PSQ) on student satisfaction (SS),  $(c'=.2578, SE=.0664, T=3.8826, LLCI=.1271, ULCI=.3886)$  did not include 0; hence, it was statistically significant and significant p value  $< .05$  further indicated its significance.

Table 12  
*Total and Direct Effects of X on Y*

	Effect	SE	t	P	LLCI	ULCI
Total effect of X on Y (c)	.8360	.0607	13.7736	.0000	.7165	.9555
Direct effect of X on Y (c')	.2578	.0664	3.8826	.0001	.1271	.3886



### **Indirect Effects**

Table 13 presents results of indirect effects of perceived service quality (predictor -X) on student satisfaction (dependent variable-Y). Mediating variable is  $ab=.5782$  and it was approximated that if perceived service quality (PSQ) increased 1 unit, student satisfaction (SS) would have a decrease of  $.5782$  units through perceived value (PV). Boot LLCI=.4406, Boot ULCI=.7210 did not include 0, hence it was statistically significant and hypothesis H3 was partially accepted as effect of perceived service quality (PSQ) in presence of mediator remained significant ( $p < 0.05$ ).

Table 13  
*Indirect effect of X on Y*

	Effect	BootSE	BootLLCI	BootULCI
Perceived Value (PV)	.5782	.0712	.4406	.7210

\* Sample bootstrap number for confidence interval: 5,000

\*\* Confidence level for all confidence intervals in the output: 95%

### **DISCUSSION**

Data analysis results in business schools showed existence of negative quality gaps in five SERVQUAL dimensions and overall gap scores were also negative. This showed that students' expectations exceeded their perceptions and were not fully met. Moreover, statistically significant differences were reported between expectations and perceptions of students across five SERVQUAL dimensions in business schools. Findings are in alignment with study results of previous researchers (Afridi et al., 2016; Chopra et al., 2014; Enayati et al., 2013; Green, 2014; Min & Khoon, 2013; Mwongoso et al., 2015; Rasli et al., 2012; Yousapronpaiboon, 2014). These researchers reported negative quality gaps in all SERVQUAL dimensions in their studies on HEIs. However, results are inconsistent with study findings of Ahmed et al. (2016), Rozsa (2013) and Abili et al. (2011) who reported both positive and negative quality gaps in their research studies on HEIs and business schools. Students' expectations and perceptions mean scores were higher in private business schools as compared to public business schools in all SERVQUAL dimensions. Findings are consistent with results of Ahmed et al. (2016), Mukhtar et al. (2015), Malik et al. (2012), and Qureshi et al. (2008). Findings also exposed partial impact of perceived value between relation of service quality and student satisfaction. Findings of mediation regression are in alignment with study of Malik (2012) in service industries.

### **CONCLUSIONS**

This study was conducted with the main objective of determining service quality delivered by public & private sector business schools of Pakistan and investigating students' satisfaction with their service delivery. The other objective was to determine the mediating role of perceived value on association between perceived service quality and students' satisfaction. Quantitative approach was applied to test study hypotheses. Data analysis and hypotheses test results confirmed existence of quality gaps in terms of students' expectations and perceptions in both public and private sector business schools. Presence of quality gaps showed students' dissatisfaction with delivered services in both types of business schools as their expectations exceeded their perceptions in all quality dimensions. Moreover, t-test results indicated institutional difference in service quality of public and private sector business schools. Students' perceived value had also mediating impact on relation of service quality and student satisfaction. These findings supported all study hypotheses. On the basis of study findings, following recommendations are suggested for management of business schools.



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### ***Recommendations for Managerial implications***

Negative quality gaps in all quality dimensions require immediate action by management of business schools. It is recommended that the management & policy makers should consider what students perceived regarding service quality and make resource allocations and revisions in quality policy incorporating students' valuable feedback and not merely based upon management' understanding of service quality. To improve customer satisfaction, management should enhance students' perception of quality services by improving their perceived value. As perceived service is evidenced in literature to be correlated with satisfaction, student perceived value will impact positive student loyalty.

### ***Suggestions for Future Researchers***

This study only considered viewpoint of students enrolled in business schools of Lahore, Pakistan. Future researchers can also conduct similar studies to investigate students' perception of service quality from other areas and disciplines within university e.g. engineering, social sciences, law to generalize study findings. This study used perceived value as mediator. Future research can be conducted testing other mediators like corporate image or a combination of mediator and moderator.





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