Measuring Service Quality in Higher Education: An Application of 'SERVQUAL' Model

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Abstract

In this competitive era of educational revolution, generating satisfaction among the students in higher education plays a pivotal role for survival. Like the private institutions, the Government colleges and Universities are also determined to uplift the quality of their teaching and delivery mechanism. The purpose of the study was to measure the efficacy of service quality delivered by the government institutions to their student's perception level. The study also measures the impact of student's perceived service quality on their satisfaction. For this purpose, the study has taken the service quality parameters from the quality assessment scale SERVQUAL. The research undertaken is descriptive in nature and the target sample of this research consists of 372 management students (both UG and PG level) of six different Management colleges/Universities from five different cities of India. The results have been compiled on the basis of regression analysis and the result indicates the degree of effectiveness of the service quality parameters (RATER) taken from SERVQUAL on students perception. It was evident from the result that, except empathy, rest of the components are significant to measure the student's perception. Further, the student's perception has been found significant to influence their satisfaction. The finding of the study led implications for improving individual attention *(empathy)* to the students in Govt. management institutions to generate the maximum level of satisfaction and to compete better with the private management institutions.

Key Words: Service Quality, SERVQUAL, Perceived Service Quality, Students Satisfaction, Education Sector.

Introduction:

The education sector around the globe is growing at enormous speed over the last few decades. During the time massive changes are evident in policy, structure and status of higher education industry. With time student satisfaction becomes extremely essential for the universities and their management (Douglas et al., 2008) [1]. Over the years students became the main success factor for any college or educational institution (Lohani, M. B., & Bhatia, P., 2012) [2]. On the other hand, students also became exceptionally critical while selecting their educational institutions (Binsardi and Ekwulugo, 2003) [3]. They are now more focused on quality of education rather than getting a mere degree. According to Hill (1995), the higher

education system can be considered as a service industry in modern day scenario [4]. Later on Sandhu and Bala (2011) added to it and opined that service quality is the essence of higher learning [5]. It can be considered as one of the critical components of the success of higher learning institutions (Landrum, Prybutok & Zhang, 2007) [6]. It is appropriate that universities make a shift from having a product-led, i.e. relying on the product to sell, towards a more "customer-led" i.e. student centric approach (Angell et al., 2008) [7].

Considering these facts, service quality of higher educational institutions became a contemporary and a decisive issue that determines the competitiveness, growth and profitability of such institutions. In order to make the institution progressive and effective it is crucial for the higher authorities of the institutes to consider students' expectations and quality perception about the educational environment (Palacio, Meneses and Perez 2002) [8]. Therefore, it can be said that, in the arena of higher education the catalyst for survival is how well they meet the requirements of the ever demanding customers or students (Lohani, Maya Basant; Bhatia, Pooja, 2012) [9].

Over the years the revolution in the higher education is also evident in India. Universities and institutions of professional courses (like; Management Studies) in India have made progress in leaps and bound. Usually these courses always consider the innovative ideas to develop their quality and excellence (Pichyada, 2019) [10]. For such institutions, student service has emerged as an article of faith (Bhatia, 2009) and to survive the hyper intense competition in the education industry [11]. Considering its essence; the focus has now shifted towards the quality of service provided to the students (Rowley, 1996) [12]. This approach has given the higher educational institutions of professional studies an upper hand over many of the institutes of traditional courses in the country. Further; like the private institutions, rendering the best quality services to the students is crucial for the government colleges and Universities (Ibrahim et al., 2012), which are often criticized for the lackluster treatment of the students and inordinate delivery of the quality education [13].

The purpose of this study is to measure the impact of service quality on customer's (students of higher education; Hill, 1995) satisfaction in the government management colleges and Universities [14]. In the line of the study conducted by Pariseau and McDaniel (1997), this research has taken the components of SERVQUAL model as the elements of service quality and tested the effectiveness of such elements on students perceived service quality [15]. Eventually the effect of student's perception has been measured on their satisfaction (Farahmandian et al., 2013), so; to measure the effectiveness of service quality to generate satisfaction among the student's in the government management institutions of India [16]. The purpose was also to generalize the findings to the population of similar geo-demographic profile.

The following part of the paper will deal with the concept of service quality and the factors (components of service quality) taken as the determinant for creating customer perception and satisfaction.

Literature Review:
   ❖ *Service Quality (SQ)*

In this globalized era of business, providing a high level of service quality is the essence of the hour. The "*service quality*" in higher education is considered as one of the fundamental aspect for achieving excellence (Malik et al., 2010) [17]. Zeithaml and Berry (1988) posited and operationalized SQ as a difference between consumer expectations of 'what they want' and their perceptions of 'what they get' [18]. SQ has been termed as "the extent of discrepancy between the customers' expectations and perceptions" (Zeithaml et al., 1996) [19]. Based on this conceptualization and operationalization, they proposed a service quality measurement scale called 'SERVQUAL'. The model is consists of five individual components *(RATER)* for measuring the quality of services:

Reliability (RL)*: The ability to perform the promised service dependably and accurately (Zeithaml et al., 1990) [20].*

 ➢ Reliability involves providing education based services dependably and accurately in a manner which satisfies the customers (Asogwa, Asadu, Ezema, Ugwu & Ugwuanyi, 2014) [21]. Both public and private institutions in higher education consider RL an important factor in predicting perceived service quality (Porral, Mangin & Novo-Corti (2013) [22].

Assurance (AS)*: The willingness to help customers and to provide prompt service (Zeithaml et al., 1990) [23].*

 ➢ There is positive relation between student's satisfaction and assurance (Rouf et al., 2016) [24]. In the higher educational institutions, the students perceived service quality is high when there is AS in terms of trust in degree, placement, safe environment etc. (Khan, Ahmad & Nawaz, 2011) [25].

Tangibility (TAN)*: The appearance of physical facilities, equipment, personnel and communication materials (Zeithaml et al., 1990) [26].*

 ➢ Tangibility covers the existence of physical and functional facilities, equipment and appearance of personal which is used in rendering effective services in higher education. The presence of buildings, sports facilities, library, modern equipment, journals, printed matters and presence of employees and teachers in their respective positions leads to positive imprint on the minds of the students (Datta & Vardhan, 2017) thereby on perceived service quality [27].

Empathy (EMP)*: The provision of caring, individualized attention to customer (Zeithaml et al., 1990).*

 ➢ Empathy means caring, individualized attention being given to the students. In management institutions in higher education, it conveys approachability, ease of contact with education service providers and willingness to understand customers' needs. It also means that students should be given a sympathetic hearing to their queries (Asogwa, Asadu, Ezema, Ugwu & Ugwuanyi, 2014) [28]. The students feel that empathy when it is

the part of personality of the educator and it plays an important role in determining perceived service quality in higher education (Theresia & Bangun, 2017) [29].

Responsiveness (RES): The knowledge and courtesy of employees and their ability to convey trust and confidence (Zeithaml et al., 1990) [30].

> Yousapronpaiboon (2014) opines that responsiveness leads to providing prompt services to the students, responding promptly to queries [31]. Assessment of quality of the institution by the students comprises of RES as one of the quality parameter. This has direct bearing on perceived quality and hence satisfaction of students (Khan, Ahmad & Nawaz, 2011) [32].

❖ *Perceived Service Quality (PSQ)*

In the field of service marketing; the difference between customer expectation and perception is termed as a "*gap*" (gap 5) and it is referred to as "*perceived service quality*". Researchers also defined perceived service quality as the customer perception of how well a service meets or exceeds their expectations (Czepiel, 1990) [33]. Literature reveals that, PSQ is a difficult concept to be measured. Some researchers (Parasuraman et al., 1985) in this area referred the concept as "*elusive*" and considered as very hard to be solved, meaning it is "*far from conclusive*" [34]. Later on; Sachdev & Verma (2004) claimed that it can be measured in terms of customer expectation, customer perception, customer satisfaction and customer attitude [35]. The perceived quality of service can be the result of assessments of the service encounter. In the arena of higher education students perception may range out from meetings with office staff to meetings with teachers, heads of departments, etc. (Hill, 1995) [36]. It is evident in the literature that, PSQ of the students has a significant impact on their satisfaction (Omar and Arbab, 2018) [37].

❖ *Customer Satisfaction (SAT)*

Customer "*satisfaction*" is a term frequently used in marketing. It is a measure of how products and services supplied by a company meet or surpass customer expectation. It is defined as "the number of customers, or percentage of total customers, whose reported experience with a firm, its products, or its services (ratings) exceeds specified satisfaction goals" (Farris, Paul W.; Neil T. Bendle; Phillip E. Pfeifer; David J. Reibstein (2010) [38].

SAT has been defined by many scholars in terms of the experience of the services or the fulfillment of personal expectation after consumption or the service (Kotler and Clarke, 1987) [39]. While entering into the higher education; student also carries enormous level of expectations and this open the door for the researchers to determine what the students expect before entering the university (Palacio, Meneses, & Pérez, 2002) [40].

Research Gap

Service quality research in higher education sector can be considered as a novel phenomenon. Literature reveals that, the quality models commonly practiced in the business world have also been adopted and used in the education sector (Chua, 2004) [41]. Literature also

discloses that SERVQUAL scale is reliable and valid when it is applied to a particular classroom environment (Stodnick and Rogers, 2008) [42].

In the current scenario the private institutions in higher education have shown tremendous edge over the government colleges and Universities in India. A few studies have been conducted to measure the impact of service quality on student's perception and satisfaction in many of the private institutions. Similar research have also been done even in various management colleges / Universities / Business Schools (Cuthbert,1996), but there is no prior research where the impact of RATER has been measured on students perception in government management institutions specifically; in the scenario of Indian higher education [43].

Objectives

The study is an attempt to measure the effect of service quality dimensions, Reliability, Assurance, Tangibility, Empathy and Responsiveness i.e. *RATER* (taken from- "SERVQUAL Model" proposed by Parasuraman, Zeithaml & Berry, 1988) on the perceived service quality of students in government management institutions operating in the country [44]. Later on; the purpose was to measure the effect of such (perceived service quality) on their satisfaction level. Hence the objective of this study is to examine the strength of relationship between service quality and students satisfaction in higher education sector.

Scope of the Study

The population of the study consists of both undergraduate and postgraduate students from different management colleges and Universities of India. The sample has been collected from six government institutions of management courses from five cities of India (one from Delhi, one from West Bengal, two from Bihar, one from Assam and one from Tripura). For reporting more generalized findings, the study captured distinct geographical zone and varied demographic profile of the respondents.

Hypotheses of the Study

To reach the above mentioned purpose, six hypotheses have been formulated. The hypotheses are mentioned as below:

H1: There is a significant relationship between reliability and customer perceived service quality

H2: There is a significant relationship between assurance and customer perceived service quality

H3: There is a significant relationship between tangibility and customer perceived service quality

H4: There is a significant relationship between empathy and customer perceived service quality

H5: There is a significant relationship between responsiveness and customer perceived service quality

H6: There is a significant relationship between the customers perceived service quality with satisfaction

Research Methodology:

By considering the objectives of the study a cross-sectional descriptive design was found most appropriate for the purpose. The research uses survey as a method of collecting data. A questionnaire based on five-point Likert's scale has been developed as a tool for data collection. The choices of the variables and the items in the questionnaire have been done with the help of extensive literature review (*Service Quality-* Ravichandran, K., Prabhakaran, S., 2010 [45]. *Perceived Service Quality-* Saif Ullah Malik, 2012 [46], *Satisfaction-* Maina., M. Mugambi., M., 2013 [47]).

The instruments used in the questionnaire were divided into two sections. The first section consists of the demographic characteristics of the respondents such as education, and gender, the second section include a five- point Likert's scale, ranging from strongly disagree (1) to strongly agree (5), dealing with the items of the constructs used in this study namely; the Reliability (RL), Assurance (AS), Tangibility (TAN), Empathy (EMP), Responsiveness (RES), Perceived Service Quality (PSQ) and the satisfaction (SAT) of the students. Multiple items were used to measure each of the constructs (Table 1).

The students of six management colleges / Universities (including both UG and PG level) of five different cities of India consists the population for this research. The Universities and colleges (of management courses) from two metro cities and three tire II cities (one from Delhi, one from West Bengal, two from Bihar, one from Assam and one from Tripura) have been considered to contact the respondents. The educational institutions selected have similar functionality and code of conduct governed by the University Grant Commission (UGC) of India. Similarity of working condition, educational courses and work climate ensures the homogeneity of the population (Malik et al., 2010) [48].

By considering the similarity of the nature of the study conducted by Malik, Danish and Usman (2010), a convenience sampling method was found most appropriate to reach the sample respondents. Following the recommendation of Roscoe (1975) a sample size of 372 ("number of items in a questionnaire * 10" i.e. 30*10 = 300) was considered as appropriate and sufficient for the purpose [49]. Nearly 550 questionnaires were distributed. A total of 412 filled in questionnaires were received. And finally, after removal of outliers and incomplete responses, 372 responses were found usable and valid for further analysis. Rest have discarded due to non-response and missing value errors (Litte and Rubin, 1987) [50].

Both descriptive and inferential analyses were performed to analyze the valid data collected through the survey. Analyses of data were performed with SPSS 20.0. In the line of Tranmer & Elliot (2008) multiple regression was found most suitable to measure the impact of the independent variables (RL, AS, TAN, EMP and RES) on the dependent variable (PSQ) [51]. Before going for actual data analysis and hypothesis testing, the data were screened to ensure that the data get cleaned and ready for further analyses (Tabachnick & Fidell, p 139) [52].

Assumptions of multivariate regression analysis (normal distribution of data, linearity, freedom from outliers and multi-collinearity etc.) have been tested at the initial level (Buyukozturk, 2002) [53]. Data was examined for the presence of any missing values and outliers. Outliers were identified using Cook's distance. A total of 09 responses were deleted as they exceeded the threshold limit of 1. Normality of the data has been checked with a histogram and a Q-Q-Plot. Freedom from multicollinearity has been tested by checking the Variance Inflation Factors (VIF).

Reliability and Validity of the Scales

The cronbach's alpha value has been calculated to check the reliability for each of the scales developed. As all the calculated values found more than 6 (as given in Table 2), it can be said that, all the scales developed for the purpose are reliable (George and Mallery, 2003) [54].

Validity is the degree to which a measure accurately represents what it is supposed to (Hair at al., 1998) [55]. The current study addressed the content validity through expert opinion and later through pilot-testing of the instruments developed for data collection. The variables for the study have been adopted from the instruments used in previous research, which have been modified purposefully (Hyman, Lamb, & Bulmer, 2006) [56] as per the requirements of this study and experts' opinion (Zamanzadeh et al., 2015) [57]. Hence it is further required to check the construct validity. For the construct validity, Composite Reliability (CR) and Average Variance Explained (AVE) have been computed. Table 1 shows that all the constructs have CR more than .7 (CR>.7) and AVE more than .5 (AVE>.5). This signifies that the scales adopted in this study are both reliable and valid (Hair, Black, Babin & Anderson, 2016) [58].

Table 1: Reliability and Validity of Constructs

Variable		Factor Loading	Cronbach's Alpha Value	Composite Reliability (CR)	Average Variance Extracted (AVE)
Reliability *(No of Items- 5)*	**RL1**	0.861	0.78	0.958	0.741
	RL2	0.861			
	RL3	0.861			
	RL4	0.817			
	RL5	0.817			
Assurance *(No of Items- 3)*	**AS1**	0.938	0.88	0.956	0.879
	AS2	0.938			
	AS3	0.938			
Tangibility *(No of Items- 5)*	**TAN1**	0.874	0.755	0.951	0.710
	TAN2	0.835			
	TAN3	0.819			
	TAN4	0.823			
	TAN5	0.769			
Empathy	**EMP1**	0.867	0.791	0.837	0.634

(No of Items-3)	EMP2	0.809			
	EMP3	0.705			
Responsiveness *(No of Items- 5)*	RES1	0.538	0.858	0.895	0.502
	RES2	0.79			
	RES3	0.771			
	RES4	0.613			
	RES5	0.864			
Perceived Service Quality *(No of Items- 5)*	PSQ1	0.756	0.726	0.933	0.627
	PSQ2	0.785			
	PSQ3	0.834			
	PSQ4	0.874			
	PSQ5	0.712			
Satisfaction *(No of Items- 5)*	SAT1	0.567	0.780	0.896	0.489
	SAT2	0.657			
	SAT3	0.845			
	SAT4	0.834			
	SAT5	0.745			

Source: SPSS output

Analysis and Findings:

Demographic Profile of the Respondents

The demographic distribution of the respondents is depicted as below (Table 2):

Table 2: Demographic Statistics

Category	Frequency	Percentage
Gender Distribution of Sample Respondents		
Male	204	55%
Female	168	45%
Qualification / Education of Sample respondents		
Graduation	227	61%
PG	145	39%

Source: Authors compilation

Table 2 illustrates the gender distribution (Male- 55% and Female-45%) of the respondents and the status of their qualification (Pursuing Graduation level program-61% and

Post-Graduation level Program- 39%). Further, regression analysis has been performed to test the hypotheses developed for the study. The result has been illustrated below:

Results of Regression Analysis

Multiple regression has been performed to identify the effect of the service quality parameters (RL, AS, TAN, EMP and RES) on customer perceived service quality (PSQ). The purpose was to measure the effect of Service Quality parameters (Reliability, Assurance, Tangibility, Empathy and Responsiveness) on perceived service quality. The results are depicted as below:

Table 3: Model Summary

Model Summary										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.839[a]	.704	.700	.45996	.704	174.423	5	366	.000	1.796
a. Predictors: (Constant), RES, AS, TAN, RL, EMP										
b. Dependent Variable: PSQ										

Source: SPSS output

Table 3 depicts high correlation (R = 0.839) between the independent and the dependent variables. R-squared is 0.704; meaning that 70.4 percent of the variability of customer perceived service quality is accounted for by the Reliability, Attractiveness, Tangibility, Empathy and Responsiveness in the model. In this case, the adjusted R-squared indicates more than moderate (70.0%) level of the variability of customer perceived service quality is accounted for by the model. The standard error of the estimate (0.45996) measures the high accuracy of predictions made with a regression line. It also shows possibilities of some unexplained errors, not considered for the purpose and which might affect the dependent variable.

The Durbin-Watson statistics tests the correlation between unexplained errors. The Durbin-Watson value in this case is 1.796, which is between 1.5 and 2.5 and therefore the data is not auto correlated (Vinod, 1973) [59].

Table 4: ANOVA

ANOVA					
Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	184.507	5	36.901	174.423	.000[a]
Residual	77.432	366	.212		
Total	261.939	371			
a. Predictors: (Constant), RES, AS, TAN, RL, EMP					
b. Dependent Variable: PSQ					

Source: SPSS output

Table 4 reports the model fitness which is highly significant (p=0.000, F= 174.423) and signifies a good relationship between dependent and independent variables.

Table 5: Coefficients

Coefficients					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.409	.108		3.796	.000
RL	.214	.059	.243	3.625	.000
AS	.296	.058	.393	5.148	.000
TAN	.343	.046	.379	7.392	.000
EMP	-.155	.078	-.202	-1.981	.048
RES	.196	.031	.218	6.373	.000
a. Dependent Variable: PSQ					

Source: SPSS output

Table 5 explains the coefficients (β) of Independent Variables upon the Dependent Variable. The five Independent Variables (RL, AS, TAN, EMP and RES) taken in this study show their relative importance for the prediction of the Dependent Variable i.e. Perceived Service Quality. It shows highly significant results of four variables on the dependent variable (Reliability: p=0.000, t= 3.625, β= 0.243; Assurance: p= 0.000, t= 5.148, β= 0.393; Tangibility: p=0.000, t= 7.392, β= 0.379; Responsiveness: p=0.000, t= 6.373, β= 0. .218) and insignificant result for one variable (Empathy: p= 0.048, t= -1.981, β= -0.202).

Based on the findings, the equation for the regression line developed is:

Customer Perceived Service Quality =

0.409 + (0.214*Reliability+0.296*Assurance+0.343*Tangibility+0.196*Responsiveness)

The linear regression has been performed further to measure the effect of customer Perceived Service Quality on their Satisfaction. The results are interpreted as below-

Table 6: Model Summary

Model Summary										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.746[a]	.556	.555	.63692	.556	463.453	1	370	.000	1.904
a. Predictors: (Constant), PSQ										
b. Dependent Variable: SA										

Source: SPSS output

Table 6 depicts high correlation (R = 0.746) between the independent and the dependent variables. R-squared is 0.556; meaning that 55.6 percent of the variability of customer

Satisfaction is accounted for by the Perceived Service Quality in the model. In this case, the adjusted R-squared indicates more than moderate (55.5%) level of the variability of customer perceived service quality is accounted for by the model. So, it can be interpreted that the satisfaction of students is not only the result of their perceived service quality. The standard error of the estimate (0. .63692) measures the high accuracy of predictions made with a regression line. It also shows possibilities of some unexplained errors, not considered for the purpose and which might affect the independent variable.

The Durbin-Watson statistics tests the correlation between unexplained errors. The Durbin-Watson value in this case is 1.904, which is between 1.5 and 2.5 and therefore the data is not auto correlated (Vinod, 1973) [60].

Table 7: ANOVA

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	188.008	1	188.008	463.453	.000[a]
	Residual	150.097	370	.406		
	Total	338.106	371			
a. Predictors: (Constant), PSQ						
b. Dependent Variable: SAT						

Source: SPSS output

Table 7 reports the model fitness which is highly significant (p=0.000, F= 463.453) and signifies a good relationship between dependent and independent variables.

Table 8: Coefficients

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.396	.137		2.893	.004
	PSQ	.847	.039	.746	21.528	.000
a. Dependent Variable: SAT						

Source: SPSS output

Table 8 explains the coefficients (β) of Independent Variables upon the Dependent Variable. The Independent Variable (PSQ) taken for the purpose shows the relative importance for the prediction of the Dependent Variable i.e. customer Satisfaction. It shows highly significant results (Perceived Service Quality: p=0.000, t= 21.528, β= 0.746).
Based on this table, the equation for the regression line developed is:
*Student Satisfaction= 0.396+ (0.847*Perceived Service Quality)*

Table 9: Result of Hypotheses Testing

Hypotheses *(Alternative)*	Result
H1	Accepted
H2	Accepted
H3	Accepted
H4	Rejected
H5	Accepted
H6	Accepted

Source: Authors compilation

To show the relational effect of the independent variables on the dependent variable, the conceptual model developed is portrayed as below:
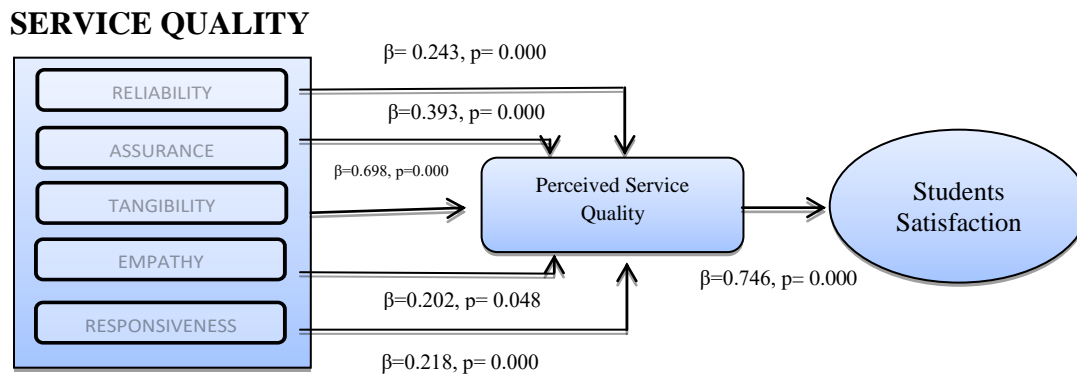
SERVICE QUALITY

Figure 1: Conceptual Model

Discussion:

According to Beaumont (2012), students are primary stakeholders for higher education institutions and therefore assessing service quality from their viewpoint is crucial for making improvements in higher education [61]. The elementary purpose of the study was to measure the effect of service quality parameters (RATER) on student's perception about the service being delivered by the institutions of management studies. The purpose was also to measure the effect of student's perception on their satisfaction level, thus; measuring how effective the service quality parameters (RL, AS, TAN, EMP & RES) are to generate satisfaction among the students. The findings of the study indicate except empathy; all the other components of service quality model can be considered as the major determinants of student's perception of service quality. These findings slightly contradict with some of the existing literature as; Hasan et al. (2008) found all five dimensions (RATER) of service quality model had a significant relationship with

student's perception in higher education [62]. They also found *empathy* as an essential factor to maintain the quality in higher education. Although, like this study; the similar result was evident in the findings of Bharwana et al. (2013), where it has been found that, empathy has no positive correlation with the student's satisfaction [63].

The current study found RL, AS, TAN, RES are positively shaping the perception of students. The findings suggest that the employees (teaching and non-teaching) are efficient, available, willful and ready to serve, friendly and effective while communicating with their students. They are courteous, consistent and trustworthy as well. The faculties (and the other service providers) are well groomed and prompt enough to solve the problem right at the first time. Their behavior insists confidence among the students and the students feel it free to ask and clear their doubts as well. Further, the physical facilities of such institutions are modern and visually appealing to the students, which fulfill their study requirements. The result shows that, these amenities and the services rendered to the students are significantly impacting student's perception of the service quality, which in-turn generates satisfaction among them. These findings corroborate some of the research findings obtained in previous studies (Khosravi et al., 2013) as well [64]. It shows that, the government colleges and Universities operating in the arena of higher education are effective enough while serving their students. They effectively maintain the quality of the services to deliver best treatment to their students.

On the other hand, it is also evident from the findings of the study that there is a lacking in terms of empathy towards the students in such colleges and Universities. That means; there is lack of individual attention, clear understanding of student specific needs or personal involvement by the faculty and staff members in students problem solving. There must be some factors working as the barriers in terms of dearth in empathy for the students. The possible reasons could be the lack of individual care by the service providers inside and outside the class or they are unable to understand the specific need of the students or somehow the service providers are not prompt enough to analyze and solve the individual issues related to the academic or non-academic needs of the students in such government colleges and Universities. Conceptual and empirical evidence from the literature indicates that *empathy* evokes the motivation to help others (Lazarus, 1991), which in turn can results in better service delivery [65]. Hence, it is essential for the authorities of higher education (in the government colleges and Universities) to be more focused while treating their students to engender maximum satisfaction inside their mind.

Further, the findings of this study indicate that perceived quality of the services delivered is having the bearings on student's satisfaction. The findings are in the line of Pedro, Mendes, & Lourenco (2018); as they have also found perceived service quality as a determinant of student's satisfaction in higher education [66]. Dabholkar, Shepherd, and Thorpe (2000) also indicated service quality leads to customer satisfaction [67].

Hence, the findings of the study indicate that the government Universities and colleges operating in the arena of higher education are reliable enough to deliver their services dependably and accurately. They are prompt and willful while serving their students. They are

courteous for their students and trustworthy among them. Further, they are having the sufficient equipment and facilities to render their services effectively and efficiently. But the faculties and the staff members of such institutions need to be more cautious in terms of giving individual attention to their students to provide the best quality services. This in turn can generate better perception of the quality of services delivered to them and can engender the maximum level of satisfaction as well. Providing attention to individual students would also be crucial for such government Universities and colleges to overcome from their lackluster image while considering the quality of services. This would be crucial for such government colleges and Universities for becoming more competitive in terms of providing best quality education in higher studies.

Significance of the Study

✓ *Contribution to the Literature*

This study contributes to the service quality and students satisfaction in education sector literature. This research contributes to the body of existing knowledge by providing a substantive understanding of the impact of SERVQUAL and students perception and satisfaction formation in higher education.

✓ *Managerial Implications*

The findings of the study will add to the understanding of the need and utility of developing and sustaining with effective service quality in higher educational institutions across various disciplines. The findings of the study can also be utilized as a reference for various disciplines in higher education as well as in other service sector organizations. Maintaining satisfaction among the students is the utmost importance in modern day scenario. The findings of the study will help to understand the need of service quality and application of RATER in education sector. The findings of the study could be the crucial input for the authorities of higher education across various disciplines to maintain high quality in the service delivery process. Further, depending upon the similarity, the findings can be generalized to wider geo-demographic area of higher education around the globe.

Limitations of the Research and Avenues for Future Research

The findings of this research should be interpreted in the light of the following limitations:

The number of variables taken for the study might not be exhaustive to measure satisfaction of the students in higher education. Future research should concentrate on improving the conceptual model as there is enough scope to add other decision-making variables to enrich the empirical findings of this study. The sample size considered for the purpose might also not be sufficient to generalize the findings. Further, only limited number of government sector institutions (within a restricted geographic area) has been covered for the purpose, which also need to be taken care of. Even though the current study provided encouraging and promising preliminary results, supplementary results are required to appraise the research model's stability and applicability across larger geographical areas, among large number of population (students

in higher education), across different disciplines. By considering the limitations of the study further research is required to generalize the findings more empirically.

Conclusion

The government Universities and colleges in India are often criticized for their lacklustre performance and also fall behind private institutions. The findings reported in the study can have the implications for such institutions (government) of higher education to uplift their performance and perform better. It is evident from the above empirical study that, prompt delivery of services (quality and timely education); competent human resources and the attractive facilities are the catalyst in generating satisfaction among the students of such institutions. The whole hearted approach of the employees and teachers in the government sector institutions in higher education is also one of the key factors in garnering maximum satisfaction. Hence, the Government higher educational institutions should pay more attentions to these findings in order to keep the satisfaction of the students intact, as it is evident in the current study in case of management institutions. If higher educational institutions across discipline can work on these areas, it can also enhance their service quality and they will be able to serve their students better. Further, the study also reveals the association of the component of SERVQUAL model towards satisfaction of the students in higher education.

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