

Impact of Service Quality on Student Satisfaction: A Case Study of Public Sector Higher Secondary Institution

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Abstract

Considering the importance of service quality, this paper aims to investigate the relationship between service quality and student satisfaction in higher education sector of Nepal. A public higher secondary school located in Panauti, was taken as the sample for the study. The descriptive and casual comparative research approaches was adopted to examine the impact of service quality on student satisfaction. A personally administered survey was administered using questionnaire based on items prescribed by Parasuraman's SERVQUAL (1985) and refined by Croning et al. (1992) as SERVPERF scale consisting five dimensions namely; tangibility, reliability, responsiveness, assurance, and empathy. Over 140 students participated in the survey and 121 usable responses were received from student of the institution studying in four streams. This results of descriptive analysis indicated that students perceive relatively better provision in service quality dimensions of reliability, responsiveness, assurance and empathy than physical dimension named tangibles. In addition, the empirical result of regression analysis indicated the positive and significant influence of all five used service quality dimensions namely; tangibility, reliability and responsiveness, assurance and empathy on student satisfaction. Among these, tangibility and reliability were found strong influencers to student satisfaction.

Keywords: service quality, SERVQUAL, student satisfaction, higher education institutions

General Background

The higher education service sector is one of the fastest rising industries globally. After 1990s, Nepalese government reformed education sector introducing liberal policies. Many public and community based institutions played vital role in providing higher education. Moreover, the rise of private and foreign based institutions further made this sector more competitive and quality oriented. Service quality in public and community based educational institutions particularly is more concerning issues. Thus is because majority of the Nepalese students join these institutions than of private and foreign based

ones. In recent years, most of the public and community academic institutions in the nation face tendency of declining student enrollment, growing competition, dissatisfaction of students, increasing pressures from the stakeholders, persistent budgetary constraints and many other issues. These issues have led study in service quality of such institutions. Even though several efforts by researchers, no particular model of service quality is comprehensively accepted (Clewes, 2003).

Service quality is one of the most discussed topics that have been assumed as basic for sustainable and socially responsible behavior of business and non-business entities. Defining and measuring service quality itself is a tough task. It is no wonder that the complication in abstracting and assessing service quality has been considered to be one of the most argued and debated matters in services marketing (Brady & Cronin Jr, 2001). Parasuraman, Zeithaml, and Berry (1985) defined service quality as the degree and direction of a discrepancy between expectations and perceptions of customers. Similarly, Cronin and Taylor (1992) defined service quality in conceptual terms as service quality is equal to the perceptions only, as measured along the service quality dimensions—tangibles, reliability, responsiveness, assurance, and empathy.

As researchers have addressed quality and customer satisfaction in many service organizations since the 1960s and importantly within the last few decades service quality and customer satisfaction have raised as critical issues within higher education. Quality in education services is complex in its facets, largely undefined and unmeasured (Adam, 2015). Every social institution in the community through an explicit or implicit social contract of work and meeting user expectation is bottom line for achieving their satisfaction and support. Service oriented organizations, particularly, educational sector deserves in achieving student satisfaction. Many of previous research shows that organizations of all types and sizes have increasingly come to understand and appreciate the value of service quality and customer satisfaction (Thapa, 2019; Kerlin, 2000; Khan and Fasih, 2014; Kheng et al., 2010; Zeithaml, 2000) because of the direct impact these issues have on the organization's profits, customer loyalty and retention, and repeat purchases.

Similarly, the study on service quality in higher education sector has been studied by many researches in past few decades (Onogo, 2019; Khattab, 2019; Adam, 2015; Rasli et al., 2012; Yamaqupta, 2014; Yusuf et al., 2012; Schwantz, 1996; Ali & Mohamed, 2014; Alves & Raposo, 2010; Brochado, 2009; Elliott & Shin, 2002; Khodayari & Khodayari, 2011; Oldfield & Baron, 1998). There have been a range of attempts to draw on industry models such as the quality dimensions of Gronroos, Garvin and Parasuraman (Owlia & Aspinwall, 1996), SERVQUAL (Oldfield and Baron, 1998; Aldridge and Rowley,

1998), importance of performance analysis (Ford et al., 1999) and the balanced scorecard (Cullen et al., 2003) to develop the model of quality for higher education.

Objective of the Study

Even though there are hundreds of publications on consumer satisfaction and service quality, in different areas. But, there are no enough studies conducted in Nepal specifically in the area of higher education service quality and students satisfaction. This paper thus aims to examine the service quality of public educational institution and its effect on students' satisfaction with a case study of Indreshwor Higher Secondary School (IHSS) located in Panauti, Kavre. The main focus of this study is to analyze service quality being perceived by the students within five SERVQUAL dimensions; tangibles, reliability, responsiveness, assurance, and empathy and examine impact of these factors on student satisfaction.

Literature Review

Service quality

Service is a product. Its unique characteristics distinguish it from tangible products. Service is intangible, inseparable, and heterogeneous. Services cannot be seen, touched, held, or stored; they cannot be packaged and put in a bag to take home when you purchase those (Zeithaml & Bitner, 2003). Its quality has to be assessed by a customer on the premise of service performance. Defining the intangibility, inseparability, and heterogeneity characteristics of service is important, as it helps to lay the groundwork for the focus on service central to this study, especially for the production and delivery logic regarding the measurement of service quality. It also highlights the idea that there are instances where services accompany goods, and vice versa.

Service quality and customer satisfaction

Customer satisfaction is generally conceptualized as an attitude-like judgment following a series of purchases or consumer-product interactions (Yi, 1990). It is understood as the customer's emotional reaction to the perceived difference between performance appraisal and expectation. According to Kotler and Keller (2006) satisfaction is an individual perception based on their expectations of product or service performance, whether they are satisfied or dissatisfied. In the context Reichheld and Sasser (1990) from their investigation of various service industries demonstrated that loyal customers generate more revenue over more years, and that the cost of maintaining customers is often lower than the promotion cost needed to acquire new customers.

Service quality measurement

The expectancy disconfirmation model of satisfaction postulated by Patterson (1993) is the dominant conceptual model for the evaluation of customer satisfaction. This model posits that consumers' prepurchase expectations about a product or service are a major determinant of the level of postpurchase satisfaction (Patterson, 1993). Assessment of service quality is concerned with measuring attitudes of the service users on various dimensions of service quality which is subjective and qualitative too. Common models in measuring service quality are the Grönroos' model (1984), SERVQUAL (Parasuraman et al., 1988), and SERVPERF (Cronin Jr & Taylor, 1992).

The SERVQUAL model was developed by Parasuraman, Zeithaml, and Berry (1985, 1988; Zeithaml et al., 1990) for measuring service quality. This model suggests that customer satisfaction is a function of the perceptions of service quality relative to the customer's initial expectations. The broadly adopted tool for measuring and supervising service quality was SERVQUAL (Buttle, 1996) which has, at its beginning, ten determinants of service quality: reliability, responsiveness, competence, access, courtesy, communication, credibility, security, understanding the customer and tangibles. Afterwards, Parasuraman, Berry and Zeithaml (1988) exposed a high degree of correlation between some components and combined them to five dimensions: (Reliability, Assurance, Tangibles, Empathy, and Responsiveness). The modified the SERVQUAL model reduced the number of statements/items under each dimension firstly from a total of 97 to 34 and further to a 22-item instrument and grouping those 22 items into just five general dimensions.

Similarly, Cronin and Taylor (1992, 1994) found loopholes in the SERVQUAL instrument and developed the SERVPERF model. In SERVPERF model, the researchers eliminated the expectations component from the SERVQUAL model. The result was the single score perceptions-only model, a service performance-based model as a measure of the service quality construct. The model suggests that service quality is an important antecedent of consumer satisfaction and that consumer satisfaction has a significant effect on purchase intentions. The instrument has been described as the best fit for the assessment of service quality and satisfaction because of its high reliability and validity. The SERVPERF model has been widely used to measure perceived service quality in sectors such as retailing, restaurants, banking, telecommunication, airlines, catering, hotels, hospitals, automotives, and education (Landrum et al., 2009). Thus, this model has been used in this study as to investigate service quality status its relationships with student satisfaction.

Related previous studies

The study of service quality in education sector has risen from last two decades. Researchers have conducted both descriptive studies as to analyze student perception on service quality and correlational studies to examine effect of service quality on student satisfaction. In this context, Rasli et al. (2012) assessed service quality in Malaysia higher education sector using a SEERVQUAL model. The study uncovered negative gap between student perceptions and expectations in all five dimensions. Jalal et al. (2011) did student satisfaction assessment in determining service quality at higher learning institutions (HEIs) and concluded that the majority of students are satisfied with the facilities provided by universities. Similarly, their findings suggested a significant relationship between the five dimensions of service quality and students' satisfaction.

Similarly, The study of Onogo (2019) examined service quality perceived by the international students in Indiana and Michigan using SERVPERF framework. The result found that respondents were very satisfied with the service quality of nonacademic departments in their universities and the service performance dimensions of reliability, tangibility and empathy explained a significant percentage of the relationship between satisfaction and service quality (Onogo, 2019). Kattab (2019) reported a positive significant relation between the various dimensions considered and the students' satisfaction except for the independent variable campus physical facilities which had a negative non- significant relation. Schwantz (1996) applied a 7-point Likert scale designed by Parasuraman, Zethamil and Berry to investigate traditional and non-traditional student's view to investigate service quality at higher education institutions. His findings revealed no significant difference in the expectations or perceptions of traditional versus non-traditional students. Yamaqupta (2014), using multiple regression and hierarchical regression analysis, confirmed that several dimensions of service quality and academic quality were significantly related to student satisfaction. Yusuf et al. (2012) analyzed service quality differences between research universities and non research universities and observed remarkable differences.

Similarly a number of studies have found significant impact of service quality on student satisfaction. The study of Hasan et al., (2009) proved to a significant positive relationship between service quality and student satisfaction. Usman (2010) used structural equation modeling technique (SEM) to reveal impact of service quality on students' satisfaction in higher education institutes of Punjab, Pakistan. The results of the study indicated significant impact of service quality on the students' satisfactory level. In addition, Ali and Mohamed (2014) found positive significant relationship between service quality dimensions and students' satisfaction. Furthermore, Kajenthiran

and Karunanithy (2015) provided support for the Parasuraman's SERVQUAL (1985) scale, which related to the factors contributing to students' satisfaction. This study found a strong positive association between service quality and student satisfaction and more importantly assurance and responsiveness contributed significantly to student satisfaction in Sri Lankan case.

Methodology

Research design

A descriptive research design was used describe service quality and satisfaction perceived by the students. The casual comparative approach used to examine impact of service quality on satisfaction. The study was based on library and field research methods. Further, the questionnaire survey was conducted to collect student opinions about perceived performance on service quality dimensions namely, assurance, reliability, responsiveness, tangibility and empathy.

Population and sample

Population of this study constituted all enrolled students of IHSS in the year of 2020/21 studying in grade 11 and 12. The drop out students was eliminated in sampling process. A stratified sample was applied as to get responses from four streams of the study. Total number of exiting students and useful sample (responses) received has been depicted in Table 1.

Table 1

Department wise Population and Sample of the Respondents

Stream	Total students enrolment	Sample No.	Sample Percent
Management	39	32	82.05
Education	63	27	42.86
Humanities	74	33	44.59
Science	29	29	100.00
Total	205	121	59.02

Data collection

This study applied survey as to collect primary data through student opinions on service quality and satisfaction. The development of questionnaire was based on intense review of the literatures including SERVQUAL and SERVPERF models were reviewed and modified. The questionnaire comprised four sections where first section was cover letter

and second section belonged to demographic variables and section three consisted of the modified SERVPERF instrument with 22-items. Similarly, six items instrument as used by Yamaqupta (2014) used to measure satisfaction level of the students in fourth section. Both service quality within five dimensions and student satisfaction items were measured by 5 point Likert scale from 1-strongly disagree to 5 strongly agree. The survey was conducted on last week of December 2020. for evaluating IHSS students' perceived service performance along the five service quality dimensions for each of the four streams on higher secondary school; management, education, humanities, and science.

Validity and reliability of the instrument

Validity determines whether the instrument actually measures what it says is being measured (Blunch, 2008). The SERVPERF instrument has been used in several service quality related studies in various service sectors, and the results have been fairly consistent. Bayraktaroglu and Atrak (2010) conducted a study to explore and compare the fitness of SERVQUAL and SERVPERF in higher education services. A confirmatory factor analysis was used to test the model fit. The results show that there was a higher convergent validity for the performance-only score—the SERVPERF instrument. In the current study, after data collection, the modified SERVPERF questionnaire's internal reliability was tested using Cronbach's Alpha. Cronbach's Alpha is a measure of internal consistency of instrument scale, and in this test, it determined the extent to which the questionnaire provided consistent measures of the constructs.

Table 2

Reliability Statistics of the Questionnaire Items

Study variables	No of items	Cronbach's alpha
Tangibles	4	0.721
Reliability	5	0.76
Responsiveness	4	0.512
Assurance	4	0.564
Empathy	5	0.721
Satisfaction	6	0.57

The SERVPERF instrument used in the study was found to be highly reliable (22 items; $\alpha = .85$). Under which, the tangible subscale consisted of 4 items ($\alpha = .72$), the reliability subscale of 5 items ($\alpha = .76$), and empathy subscale with 5 items ($\alpha = .72$) produced higher internal consistencies. However, other subscales- responsiveness with 4 items ($\alpha = .51$), assurance having 4 items ($\alpha = .56$), and satisfaction with 6 items ($\alpha = .57$) have

acceptable internal consistencies. As per rules of thumb of George and Mallery (2003) in interpreting results of Cronbach's alpha of tangibles, reliability and empathy dimensions are good. In addition the alpha values of responsiveness, assurance and satisfaction are acceptable.

The conceptual model and hypothesis

Two distinct models- SERVQUAL (Parasuraman et al., 1988), and SERVPERF (Cronin Jr & Taylor, 1992), as generic measuring tools of service quality. These models incorporate features of services in assessment of service quality of various service sectors. Both of the models suggest customer satisfaction and perception towards service determine quality of that service. The SERVPERF model was used to determine service quality of the institution. The model constitutes satisfaction as dependent variable and five service quality dimensions; tangibles, reliability, responsiveness, assurance and empathy as independent variables. Accordingly, five set of alternative hypothesis were developed for the study. They are;

H1a: The tangibility dimension of the service quality in IHSS positively influences student satisfaction.

H1b: The reliability dimension of the service quality in IHSS positively influences student satisfaction.

H1c: The responsiveness dimension of the service quality in IHSS positively influences student satisfaction.

H1d: The assurance dimension of the service quality in IHSS positively influences student satisfaction.

H1e: The empathy dimension of the service quality in IHSS positively influences student satisfaction.

The study was focused in examining the effect of service quality dimensions; tangibles, reliability, responsiveness, assurance, and empathy on student satisfaction. To test abovementioned propositions as to obtain answers for research questions the research model applied was;

$$\text{Satisfaction}_i = b_0 + b_1 \times \text{Tangibles}_i + b_2 \times \text{Reliability}_i + b_3 \times \text{Responsiveness}_i + b_4 \times \text{Assurance}_i + b_5 \times \text{Empathy}_i + \mu_{it}$$

Where b_0 denotes the intercept of the regression equation, and b_1 , b_2 , b_3 , b_4 , and b_5 are the regression coefficients of the independent variables used respectively; tangibles, reliability, responsiveness, assurance, and empathy with error terms.

Result and discussions

Respondent profile

Table 3 depicts respondent related data includes grade, gender, stream of the study, and parents' occupation.

Table 3

Demographics of the Respondents

Variables	Frequency	Percent
Respondent's grade		
11	64	52.9
12	57	47.1
Total	121	100
Respondent's gender		
Male	54	44.6
Female	67	55.4
Total	121	100
Respondent's Stream of the study		
Management	32	26.4
Education	27	22.3
Humanities	33	27.3
Science	29	24
Total	121	100
Family Occupation		
Farmer	57	47.1
Business	27	22.3
Service	29	24
Others	8	6.6
Total	121	100

Source. Questionnaire Survey, 2021

As per results depicted in Table 3, students of both 11 and 12 grades are about same (53 and 48 percents). Among them 55 percent were female students. Out of four streams, highest 27 percent were from humanities, 26 from management, 24 from science and lowest 22 percent participated from education stream. Furth more, the occupational status of student background was distributed as; farmer (47%), service (24 %), business (22 %) and others (7%).

Descriptive analysis

Table 4

Descriptive Statistics of Dividend Payout Ratios and its Determinants

Study Variables	Mean	Std. Dev.	N
Tangibles	2.9318	0.82222	121
Reliability	3.2248	0.81795	121
Responsiveness	3.6343	0.67934	121
Assurance	3.719	0.61625	121
Empathy	3.2777	0.7799	121
Satisfaction	3.4628	0.59609	121

The descriptive results depicted in Table 3 indicate that assurance has the highest mean and tangible has the lowest mean of 3.2921. The students have perceived tangibles dimensions of their institution is favorable ($M = 2.93$, $SD = .822$). The reliability of the institutions' also found better ($M = 3.22$, $SD = .818$). Consequently, service quality of responsiveness ($M = 3.63$, $SD = .679$), assurance ($M = 3.72$, $SD = .616$) and empathy ($M = 3.28$, $SD = .779$) dimensions of the institution obtained were found to be relatively more favorable responses from the students. In other hand student, most of the students showed their satisfaction for institutions overall services ($M = 3.46$, $SD = .596$).

Regression analysis

The regression belongs to test study hypotheses those answer research questions regarding service quality and student satisfaction. Table 5 reports statistical results obtained from the analysis.

The results of the multiple linear regression indicated that there was a collective significant effect between the tangibles, reliability, responsiveness, assurance, empathy and satisfaction, [$F = 140.933$, $p < .001$, $R^2 = .860$]. The Durbin Watson (DW) statistic obtained was 1.648 that is good as Field (2009) suggests that values under 1 or more than 3 are a definite cause for concern of autocorrelation. Similarly, two major methods are commonly used to reveal presence of multi-collinearity among independent variables; a Tolerance test and variance inflation factor. According to Hair et al. (2003), the maximum acceptable VIF value would be 5.0, thus if VIF value higher than 5.0 would indicate a problem with multicollinearity. There is no issue autocorrelation and in case of the multicollinearity concern, since all tolerance statistics and variance inflation factor (VIF) of the variables (excluding net profit) are within the range (VIF scores < 2.5). Thus, the model is statistically favorable in examining hypothesized effects of service quality dimensions on satisfaction.

Table 5

Regression Result on Service Quality Dimensions and Student Satisfaction

Variables	Beta	t-value	p-value	Collinearity Statistics	
				Tolerance	VIF
Tangibles	0.445	14.369	0	0.748	1.337
Reliability	0.306	8.72	0	0.587	1.703
Responsiveness	0.154	3.497	0.001	0.538	1.86
Assurance	0.119	2.783	0.006	0.699	1.431
Empathy	0.098	2.792	0.006	0.649	1.541
R Square	0.86,	Adj. R Square	0.854,	Durbin Waston	1.648,
F-statistic	140.933,	Sig	0.000		

In addition, the individual predictors were examined further and indicated that all five SERVPERF dimensions positively and significantly influence student satisfaction. The independent predictors; tangibility ($\beta = .44$, $p < .001$), reliability ($\beta = .31$, $p < .001$), responsiveness ($\beta = .15$, $p < .005$), assurance ($\beta = .12$, $p < .05$), and empathy ($\beta = .09$, $p > .05$) were positive and significant. On the basis of these results, Table 6 reports test results of the hypotheses aimed in examining impact of service quality dimensions on student satisfaction.

Table 6

Hypothesis Testing

Hypothesis	Result	Decision
H1a: The tangibility dimension of the service quality in IHSS positively influences student satisfaction.	Positive and significant	Accepted
H1b: The reliability dimension of the service quality in IHSS positively influences student satisfaction.	Positive and significant	Accepted
H1c: The responsiveness dimension of the service quality in IHSS positively influences student satisfaction.	Positive and significant	Accepted
H1d: The assurance dimension of the service quality in IHSS positively influences student satisfaction.	Positive and significant	Accepted
H1e: The empathy dimension of the service quality in IHSS positively influences student satisfaction.	Negative and significant	Accepted

Conclusion

The study aimed to report service quality performance of the institution using SERVPERF model. The results from descriptive analysis have shown that assurance and responsiveness of the institution have been perceived better by the students. Similarly, two other dimensions; empathy and reliability are perceived as good. However, students have rated tangibles dimension of the institution as relatively weak. That may resulted due to lack of sufficient teaching-learning facilities and infrastructures available. The empirical finding suggested that human resource based dimensions which are largely dependent on skill, attitude, experiences and other attributes of the service providers were more favorable and in contrast tangibles dimension concerned to physical aspect was relatively weaker than others.

The result of the regression analysis has significantly explained association between service quality variables and student satisfaction. Meanwhile, all of the service quality dimensions; tangibility, reliability, and responsiveness and assurance, and empathy have explained positive and significant influences on student satisfaction. The empirical findings of this study declaring service quality dimensions as positive influencers on satisfaction are consistent with many of the previous studies (Hasan et al., 2009; Usman, 2010; Poturak, 2014; Ali & Mohamed, 2014; Kajenthiran & Karunanithy, 2015). In the meantime, these findings have supported to terms of the direction of the relationship as revealed by Parasuraman et al., (1985, 1988) that is the provision of better service quality leads to more satisfaction.

Implications and Further Research Potential

This study will also help IHSS leaders and administrators in tracking and benchmarking their quality performance over time, and thus evaluating the quality of services provided under various circumstances. The findings of this research will also be very useful for other private and community based academic institutions to evaluate status of service quality and student satisfaction and then apply necessary strategies to enhance quality and competitiveness. Nevertheless, the proposed model could be implemented to assess service quality in other Nepalese private higher education institutions in order to set guidelines and provide recommendations for leaders, managers, planners, designers, consultants, university professors and administrators within the Nepalese higher education sector. Similarly, a comparative study of public and private higher educational institutions is valuable. Use of other models and statistical analysis can be helpful in exploring explore new dimensions of service quality status of Nepalese academic institutions.

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