MEDIATING INTERVENTION OF STUDENT SATISFACTION IN THE LINK BETWEEN ACADEMIC SERVICE QUALITY AND STUDENT LOYALTY

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The study has made an attempt to explore the mediating intervention of student's satisfaction in the link between higher education academic service quality and student's loyalty. HiEduQual scale was used to collect the data from 600 student respondents from 30 reputed higher educational institutions distributed across Andhra Pradesh. Structural Equation Modeling (SEM) with help of AMOS 25 was applied in the study. The empirical results revealed that academic service quality impacts student satisfaction and student satisfaction mediating role between service quality and student loyalty. Outcomes of the study were beneficial to higher educational institutions of Asian region for enhancing the student loyalty and satisfaction with suitable quality measures.

Keywords: HiEduQual, Service Quality, Student Satisfaction, Student Loyalty, SEM

INTRODUCTION

Higher education system in India has grown in a remarkable way, particularly in the post-independence period, became second largest systems of its kind in the world and holds significant place in the global education industry. There were about 993 universities and 39,931 colleges, enrolled 37.4 million students in different courses of higher education as per the AICTE & IEBF Report 2021. Gross Enrolment Ratio in higher education reached 26.3% in 2019. In the face of heightening competition and student sophistication, more emphasis on quality service delivery is being laid as an important driving force to higher educational excellence, success, and survival (Parasuraman et al., 1985; Zeithaml et al., 1990). Competition among the educational institutions made the students to expect more and more services from the institution. Students have become more knowledgeable and cultured in demanding their rights partly due to technological upsurge and industrial interplay. Educational institutions also started to think in providing quality in service. But, due to political involvement, service quality is said to be diluted to some extent in some higher educational institutions particularity in private

sector. So, it is highly required to assess the service quality of the higher education and student perceptions at regular intervals. Service quality and delivery is seen as driving force for student satisfaction and loyalty. Student's satisfaction or dissatisfaction results from experiencing an academic service quality and comparing it with the expected service quality (Oliver, 1980). If the student experienced service quality is found more than expected service quality, then the student satisfaction will be more. Generally, a satisfied student bears a positive impression about the service delivery and there more chances to become loyal to the institution. It is widely recognized that service quality and consumer (Student) satisfaction are essential for retaining present consumers and attracting new ones. Service quality has become an important device and path to achieve business success. Pursuit of service quality and student satisfaction is essential to get competitive advantage for service providers. Hence the present study aimed to examine the mediating intervention of student satisfaction in the relationship between service quality and student loyalty in higher education institutions in Andhra Pradesh.

LITERATURE REVIEW

Quality can be assumed as customer perceptions or customer assessment about the overall service quality delivery. Assessment of the overall service quality by the customer depends on the gap between customer expectations and perceptions at the actual performance levels (Susanto, 2014). Parasuraman Zeithaml and Berry (1988) defined service quality as the difference between customer expectations and experience.

Satisfaction is a sense of happiness that is resulted out of a person's need fulfilment or desire acquisition. It is a state where a person experiences the service performance exceeds his expectation (Ilyas, M. & Arif, S., 2013). Student satisfaction is an instant attitude resulted out of student's evaluation about educational experiences. It is a positive antecedent of student loyalty and is the result and outcome of an educational system. Therefore, student satisfaction may be defined as a function of relative level of experiences and perceived performance about educational service during the study period (Carey, K., Cambiano, R. & De Vore, J., 2002).

Student loyalty has become a strategic aspect for higher education offering institutions. A positive relationship is existed between student satisfaction and student performance. Loyalty is a stable commitment to repurchase product or service from the same brand, despite the presence of different obstacles. For managers to reach loyalty the product must: have appropriate configuration, be considered by the customer as desirable, be subject to adoration to potentially loyal consumers, be implanted in a social network, be invested in, and cherished in order to increase demand and sustain social network (Oliver, 1999).

Proposed research model
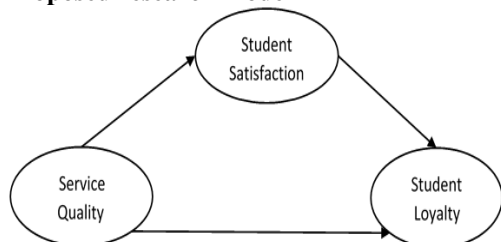
Research Hypothesis

H_1: Academic service quality affects student satisfaction
H_2: Academic service quality affects student loyalty

H_3: Student Satisfaction affects student loyalty
H_4: Service Quality indirectly affects Student Loyalty through Student Satisfaction.

MATERIALS AND METHODS

The study adopted multistage sampling technique. The state Andhra Pradesh is selected in the first stage, 30 higher educational institutions are selected in the second stage and 20 students from each college are picked up in the final stage. A total of 600 students are selected and distributed questionnaire to collect the data. The survey instrument comprises the following constructs.

Table 1 Scales used for the study

| Measure	Scale	Authors
Service Quality	HiEduQual	Annamdevula and Bellamkonda (2012)
Student Satisfaction	Satisfaction	Brady, M.K., Cronin, J. and Brand, R.R. (2002),
Student Loyalty	Behavioural Intention	Zeithaml, V.A., Berry, L.L. and Parasuraman, A. (1996),

RESULTS

Structural Equation Modelling (SEM), a multivariate statistical technique, was used to test the proposed model and hypotheses by following the guidelines of Hair et al (2017).

Analysis of Measurement Model

Measurement model examines the relationship between indicators and constructs. The study integrated constructs like service quality, student satisfaction and student loyalty into a single measurement model. Development of measurement model was carried by foot stepping into the guidelines provided by Hair et al (2006). The measurement model was estimated using Maximum likelihood method with the help of AMOS 25. Model fit results, Construct Reliability, Convergent Validity and Discriminant Validity were tested to estimate the measurement model.

Fig.2 Measurement Model
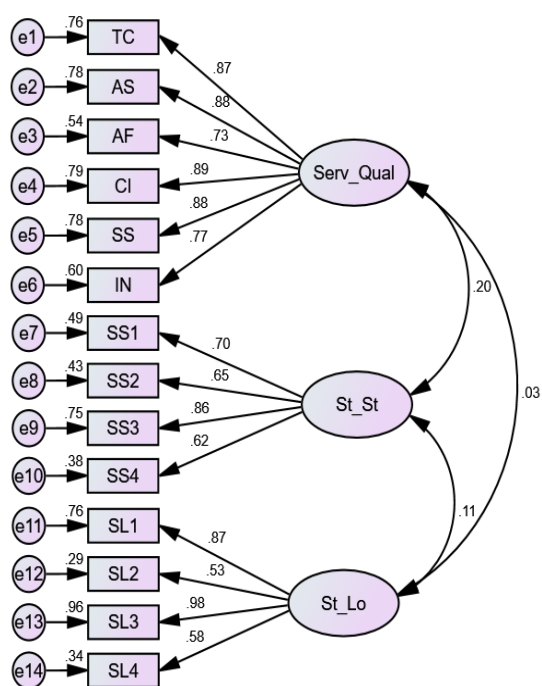
Various fit indices like Absolute fit, Incremental and Parsimony fit indices were considered for the assessment of the model fit of measurement model (Hair et al., 2008). Absolute fit indices like Goodness of Fi Index (GFI) and Root Mean Square Error Approximation (RMSEA) values are within the standard which indicates the model theory fits the sample data. The incremental Fit indices like Adjusted goodness of Fit Index (AGFI), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI) and Normed Fit Index (NFI) values were above 0.90 shows that the model fits relative to alternative baseline model. The Parsimony fit indices like chi-square/df value 4.55 were in between 1 to 8 show that the measurement model is acceptable (Hu and Bentler, 1995; Hair et al., 2008).

Table 2 Model Fit Results

Measure	Estimate	Threshold
χ^2	882.514	
df	194	
χ^2/df	4.55	1-8
GFI	0.986	>0.90
AGFI	0.968	>0.90
NFI	0.983	>0.90
RFI	0.971	>0.90
IFI	0.981	>0.90
TLI	0.971	>0.90
CFI	0.969	>0.95
RMSEA	0.038	<0.08

Construct Reliability sometimes called as composite reliability is a measure of internal consistency of particular scale (Netemeyer, 2003). The construct reliability values for all the constructs like service quality, student satisfaction and student loyalty are above the standard requirement of >0.70. it denotes that the measurement model possesses the reliability.

Convergent Validity was assessed through standardized factor loadings and Average Variance Extracted (AVE). The resulted standard estimates of all the items of the measurement model and AVE values of the constructs range between 0.53 to 0.98 and 0.51 to 0.71 respectively, also meeting the minimum requirement of 0.50. It indicates that measured variables of concern construct share a high proportion of variance in common (Byrne, 2010; Hair et al., 2008).

Discriminant validity was judged through comparison of Maximum Shared variance (MSV) with AVE or Square root of AVE with Inter construct correlations.

Table 4 Discriminant Validity

	CR	AVE	MSV	SQ	SS	SL
SQ	0.935	0.708	0.041	**0.841**		
SS	0.805	0.512	0.041	0.202	**0.715**	
SL	0.843	0.588	0.012	0.026	0.112	**0.767**

The MSV values for all the constructs found greater than AVE values of the concerned constructs and square root of AVE values of all the constructs were greater than inter construct correlations. This indicates that the constructs were dissimilar in the model (Byrne, 2010; Hair et al., 2008).

Analysis of Structural Model

The structural model explains the relationship among constructs. The model explains the correlational links among observed variable like service quality and latent variables like student satisfaction and student loyalty. Service quality is treated as exogenous variable, student loyalty as an endogenous variable and student satisfaction is treated as mediating variable.

Fig 3 Structural Model
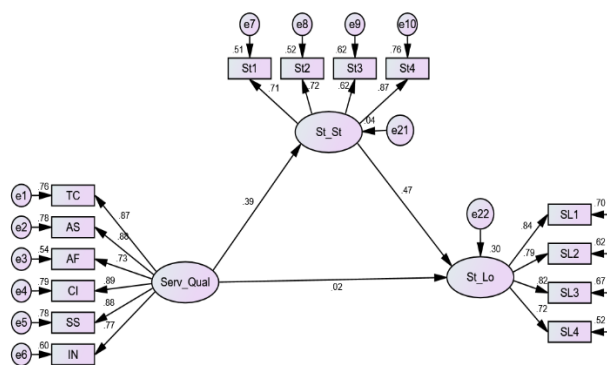
Effects

The direct effects are pathways from the exogenous variable to the outcome variable without any intermediaries. The direct effects and hypotheses results connected to structural model are presented in table 5.

The standardized co-efficient values for the paths from service quality to student satisfaction (SQ->SS) 0.39 were found significant (P value 0.001) which denotes that the service quality possess the direct effect on student satisfaction and hence, hypotheses H_1 is supported. While the standardized coefficient value 0.02 for the path from service quality to student loyalty was not significant (p value 0.212) and the framed hypothesis H_2 was not supported.

Mediation effect is the intermediary effect in the causal relationship between exogenous and endogenous variables. student Satisfaction (SS) is assumed as mediator in the link between academic service quality and student loyalty.

The unstandardized coefficient values for the indirect path from service quality to student loyalty through student satisfaction (0.095) is significant (0.005) and hence, hypothesis H_3 is supported.

Discussion

The study was aimed to measure the mediating intervention of student satisfaction in the link between academic service quality and student loyalty. Structural equation Modeling was applied through AMOS. The study results revealed that the academic service quality of higher educational institutions have strongly affected the student satisfaction. It was also found that the student satisfaction was highly influencing the student loyalty. But service quality is not directly affecting student loyalty. Mediation of student satisfaction in the link service quality and student loyalty was found positive and significant. The study results were harmonized with results of Annamdevula & Bellamkonda (2016), Teddy Chandra et al (2018) and Thomas, S. (2011).

Implications

The study has many implications for future research. The present study was aimed to assess the mediation effect of student satisfaction between service quality and student loyalty. In the process, the study has adopted HiEduQual scale and validated. Developing the loyalty among the students is very important aspects for higher educational institutions in this competitive arena. The research out comes revealed that the student loyalty is indirectly affected by service quality through student satisfaction. So, the private affiliated colleges can ensure the loyalty among their students by enhancing quality and student satisfaction.

Limitations and Future Directions

All researches have definite limitations which may lead to future prospects to investigate. Same like that the present study has the few limitations and many more aspects to investigate. The present study was carried on management education and further studies can focus on specific discipline of higher education courses like engineering, pharmacy etc. the study explored from student perspective and future studies may address on other stakeholders like teachers, parents, employers etc. The study concentrated on the perceptions of the students who were studying the course at present and future studies may extend by taking student expectations before entering to the higher educational institute and alumni who actually left the institution. The present study was confined to measure mediation effects of student satisfaction and further studies may consider university image, perceived value, student engagement, Trust etc. The study done in the state of Andhra Pradesh, but supplementary studies are need to done in other geographical areas.

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Table 3 Construct Reliability and Convergent Validity

Item	Estimate	S.E.	C.R.	P	AVE	CR
Service Quality (Second Order Factors)						
1 Teaching	0.874	0.049	20.036	***		
2 Administrative Services	0.88	0.044	18.234	***	0.71	0.94
3 Academic Facilities	0.733	0.051	20.401	***		
4 Campus Infrastructure	0.889	0.038	26.065	***		
5 Support Services	0.884	0.046	20.059	***		
6 Internationalization	0.775	0.049	20.036	***		
Student Satisfaction						
SS1 I did the right thing by choosing my university	0.703					
SS2 I am pleased to be enrolled as a student at my university	0.653	0.076	11.799	***	0.51	0.81
SS3 I am enjoying studying at my university	0.864	0.07	13.957	***		

SS4 I am happy with my experience as a student at my university	0.616	0.065	10.966	***		
Student Loyalty						
SL1 Recommend your university to friends and relatives	0.873					
SL2 Say favorable things about your university to others	0.534	0.057	12.038	***	**0.59**	**0.84**
SL3 Choose the same university again if you could start all over	0.981	0.044	26.083	***		
SL4 Attend the same university if you follow another course in future	0.584	0.05	13.455	***		

C.R. Critical ratio; CR Composite Reliability;

Table 5 Direct Effects

HNo	Path	Estimate	S.E.	C.R.	P	Result
H$_1$	SQ->SS	0.39	0.028	16.284	0.000	Supported
H$_2$	SS->	0.47	0.032	18.34	0.000	Supported
H$_3$	SQ->SL	0.02	0.045	1.075	0.212	Not Supported

Table 6 Mediation effect

HNo	Path	Unstandardized Estimate	Lower	Upper	P-Value	Standardized Estimate	Result
H4	SQ --> SS --> SL	0.130	0.059	0.211	0.005	0.095	Supported