

Examining the Influence of Perceived Service Factors on Student Satisfaction: A Student-driven Framework

¹Pallavi Sharma* and ²Dr. Swati Mishra

¹Research Scholar, ²Assistant Professor

^{1, 2}International School of Business Management, Suresh Gyan Vihar University, Mahal Rd, Jagatpura, Jaipur, Rajasthan-302017

¹Email: pallavisharmaa98@gmail.com, ²Email: swati.mishra@gmail.com

¹ORCID: 0009-0000-5473-7989, ²ORCID: 0000-0002-8362-1641

*Corresponding mail: pallavisharmaa98@gmail.com

Received: 24th April, 2026; Revised: 20th May 2026; Accepted: 30th June, 2026; Available Online: 10th July, 2026

ABSTRACT

Students' voice is widely recognised as the foundation to measure service quality in higher education institutions. The study suggested a student-driven framework to study perceived service factors and its effect on student satisfaction and it was conducted on 360 students from Uttarakhand by stratified random sampling method. The framework identifies key dimensions such as personal, utility, functional, academic factors, and sustainable quality programs that are crucial in improving student's overall educational experiences. Exploratory and confirmatory factor analysis were used to validate the instrument, thus the instrument is reliable and valid. After analysing the data obtained, the results relate to the positive and direct influence of perceived service factors with student satisfaction ($t = 9.869$, $\beta = 0.605$ and $p < 0.05$). The results underscore the multi-faceted concept of student satisfaction and offer insights to the institutions to enhance their services which could lead to increased satisfaction and quality of education for students.

Keywords: Perceived service factors, student satisfaction, student-driven framework, higher education institutions.

How to cite this article: Sharma P and Mishra S, Examining the Influence of Perceived Service Factors on Student Satisfaction: A Student-driven Framework. Int J Drug Deliv Technol. 2026;16(80s): 1206-1215; DOI: 10.25258/ijddt.16.80s.152

Source of support: Nil.

Conflict of interest: None

1. INTRODUCTION

A great shift has taken place in the environment of universities. Modern educational institutions are characterized by quality assurance (QA) procedures in response to the increasingly cutthroat nature of the marketplace (Sumaedi et al., 2012). The quality assurance approach now heavily relies on analyzing student input on their experiences (Chaudhary & Dey, 2021). Higher education service delivery is central to student's lives (Hemsley-Brown et al., 2010). A satisfied students are a valuable testimonial for the institutions while disgruntled students may foster a culture of complaint that could harm the institution's image (Osman & Saputra, 2019). Higher education institutions (HEIs) sustainability depends on providing high-quality education, a positive learning environment, and adequate facilities (Mastoi et al., 2019). The importance of students' perceptions of service quality has increased dramatically due to the fact that it impacts many aspects of educational institutions, including student loyalty, engagement, retention, image, and sustainability (Chaudhary & Dey, 2021), and student satisfaction (Weerasinghe & Fernando, 2017; Ahmad, 2015). Studying student expectations is fundamental to providing a student-centered education (Kashif et al., 2016). It helps

institutions to remain responsive, meet and exceed the standard, ensuring that they provide a high-quality education that meets recognized benchmarks (Sharabati et al., 2019). With an increased globalized world and diverse student populations, studying the quality of higher education helps institutions cater to the varied needs of students (Stukalina, 2012). Higher education quality must be studied regularly, notwithstanding the abundance of studies on student happiness and service quality. Higher education institutions (HEIs) are greatly influenced and benefited by student satisfaction, yet there is a lack of study on the characteristics that students believe drive student satisfaction. Taking all of these into account, the study aims to fill a need in the literature, which is particularly pressing in this ever-changing age of technology, social demands, educational philosophies, and varied student bodies.

Student's perceptions of service reflect the various aspects of their educational experience (Subrahmanyam, 2017). Comprehending these perceptions is crucial for continuous improvement and ensuring that the services align with the needs and expectations of the students (Teeroovengadam et al., 2016). In this decade, the interplay between price

*Author for Correspondence: pallavisharmaa98@gmail.com

and quality encompassed in the concept of perceived value has also become a significant construct that fosters the survival of many HEIs (Sugiharto & Hurriyati, 2020). Indeed, knowing value from the perception of the student can serve as a valuable feedback loop for HEIs (Del Río-Rama et al., 2021), providing data-driven insights that support continuous improvement for sustainable development and meet the evolving needs of students (Sharabati et al., 2019). The study adds to the current body of knowledge on student satisfaction in higher education institutions (HEIs) by focusing less on quality assurance and excellence and more on the characteristics that students perceive as being important in determining their level of happiness with the services they get.

The National Assessment and Accreditation Council (NAAC) regulate quality assurance in India's increasingly mass-produced higher education institutions. Higher education institutions are required to improve their teaching and learning strategies and diversify their curricula by this autonomous institution of the University Grants Commission (Gupta, 2021). Since students are at the core of the educational process, the present study explores the underlying perceived service factor of student satisfaction and its substantial influence on student satisfaction in the context of HEIs.

The study makes two efforts to contribute to the existing body of literature in light of the foregoing. To start, it builds a holistic framework that incorporates student happiness and the student-perceived service quality component. The study also seeks to confirm the conceptual framework's validity by delving into the students' perceptions of service quality and the elements that influence their opinions.

2. THEORETICAL BACKGROUND

The study's conceptual framework is based on the “theory of reciprocity” (Falk & Fischbacher, 2006). According to this conviction, individuals have a natural tendency to respond positively to positive behaviours and negatively to negative actions. Higher education institutions engage in service quality through student-perceived service aspects aimed at reaping the rewards of student satisfaction (Tri et al., 2021). A key tenet of the theory of reciprocity is the idea of mutual give-and-take. According to this theory, institutions can help students succeed and thrive in the long run by focusing on their overall needs and providing an environment that supports this (Osman & Saputra, 2019). The foundation of excellence in higher education is the symbiotic relationship between service quality and student satisfaction (Onditi & Wechuli, 2017).

2.1 Perceived service quality factors

The element of perceived service quality is conceptually vague (Sumaedi et al., 2012). Consumer evaluations in the service industry are evolving, and many studies show that this is because service quality is based on how well actual service performance compares to customers' expectations (El Alfy & Abukari, 2020). The difference between what customers expect and what they get is the foundation of

the idea of perceived service quality (Parasuraman & Zeithaml, 1985) illustrates the dynamic process of customer evaluations in the service sector (Rozak et al., 2022). In higher education institutions, perceived service elements highlight a student-centered approach, acknowledging students as major stakeholders whose needs and expectations must be met or exceeded (Calma & Dickson-deane, 2019). As higher education grows increasingly globalised, institutions must recognise and accommodate students' diverse origins and aspirations. Perceived service quality is a major component impacting student's happiness in this context (Chaudhary & Dey, 2021). Institutions of higher learning that want to improve the quality of their services must have a firm grasp on what influences student's opinions of those services. The dimensions employed in the study were developed from a thorough evaluation of literature, solidified by focus group discussions, and validated through expert judgments.

2.1.1 Dimensions of Perceived Service Factors used in the current study

Personal Factor: Personal factors have a substantial impact on students' evaluations of higher-education service quality. Prior studies indicates that the affordability of institutional fees is a crucial factor in student satisfaction, because cost frequently impacts the perceived value of education (Almanwari et al., 2024). Furthermore, the competence and knowledge of faculty play an important role in creating the academic experience, with well-qualified educators increasing trust, learning results, and student confidence in the institution (Wong & Chapman, 2022). The perception of fairness and unbiased behavior by faculty members is equally vital, as it develops a climate of equity, respect, and inclusivity (Eltahir & Annamalai, 2023).

Utility Factor: Accessibility of physical facilities is one of the most important elements of supporting academic and non-academic activities, and is linked closely with the utility factor (UF) dimension (Farahmandian, 2013). It covers a range of matters relating to the services and/or facilities functional and practical use. It may include elements such as the physical characteristics of facilities, and addressing challenges related to the physical environment, as one of the most important indicators of perceived service factor (Abbas, 2020).

Functional Factor: In higher education, the functional dimension of perceived service relates to the effectiveness of the delivery procedures and the institution's capacity to adjust to new educational needs (Brady & Cronin, 2001). Strategic initiative or unique programs serve as the USPs and enhance learning experiences and make a positive impact (Teeroovengadum et al., 2019). The findings show that perceived service elements are often associated with a strong institutional image that strengthens the association between service quality and institutional reputation, thereby giving a strong basis for developing a unified approach to improve not only educational services, but also the other services that contribute to student

satisfaction (Osman & Saputra, 2019; Haverila et al., 2021).

Academic factor: A key component of perceived service quality in higher education is the academic aspect, which includes teaching strategies, academic support services, and curricular relevance (Pheunpha, 2019). In India, quality assurance is emphasized by accrediting organizations like the NAAC, NBA, and IQAC to regulate the quality of services (Raju & Bhaskar, 2018). A curriculum that is connected with industry demands and current trends, along with innovative and immersive teaching approaches, improves perceived academic quality (Allam, 2018; García-Morales et al., 2021) and positively influences overall perceptions of service quality.

Sustainable program quality: Sustainability in higher education focuses on not just maintaining high-quality academic programs in the present (Larrán Jorge et al., 2016), but also assuring their long-term viability. While literature frequently discusses sustainability and service quality separately, there is a rising need to combine the two (Ozdemir et al., 2020). This involves strong assessment systems, innovative teaching methods, adaptable learning options, and easily accessible learning resources, all of which aim to encourage dynamic and long-term educational outcomes (Zorio-Grima, 2020).

2.2 Student Satisfaction

Academic and extracurricular activities are both part of what students call "student satisfaction," a "multidimensional concept" that defines their time at university. It varies depending on the type of HEI and perceptions of educational services (Weerasinghe & Fernando, 2017). Higher education is in high demand around the world, and accreditation bodies are beginning to see student happiness as a key performance measure (Wong & Chapman, 2022). Higher satisfaction has been associated with a student-centered learning approach that emphasizes autonomy, engagement, personalization, and cooperation to align learning experiences to each learner's requirements (Thongmak, 2019; Sharabati et al., 2019). To improve reputation, retention, and sustainability through involvement and positive word-of-mouth, HEIs must successfully address the different requirements of their student (Zorio-Grima, 2020; Gupta, 2021).

2.3 Perceived service quality factors and student satisfaction

Service quality in higher education is a dynamic, student-driven evaluation with a significant impact on satisfaction (Osman & Saputra, 2019). While extensively studied, limited studies have focused on "student-driven perceived service quality factors" shaping satisfaction (Nazir et al.,

2022). The importance of evaluating factors including personal, practical, intellectual, and long-term program quality as significant determinants of student satisfaction should be highlighted, since the results show that value judgements directly affect satisfaction (Alves & Raposo, 2007; Teeroovengadum et al., 2019; Chaudhary & Dey, 2021). Thus, it can be hypothesised that:

H₁: There is a "direct positive and significant influence of students' perceived service quality" factor on students' satisfaction with higher education services.

3. RESEARCH METHODOLOGY

3.1 Population, sample and sampling technique

The study's population consists of all students enrolled (undergraduate and postgraduate) in the state of Uttarakhand, India, in the academic year 2020-21. The Social and Economic Statistics of India (<https://www.indiastat.com/data/education>) indicates that 2,52,325 students were enrolled for the 2020-21 academic year. "Raosoft sample size calculator" recommended a sample size of 384 students for a given demographic at a 95% confidence level. Using stratified random sampling, a sample of 384 students was selected, and a questionnaire was sent. Only 360 questionnaires were returned and used in the study.

The study was quantitative and data were obtained from self-regulated questionnaire. A survey design was adopted in the study with data collected during a specific time period between 20th October 2023 and 26th February, 2024.

3.2 Research Instrument

A student-run survey was used to gather information, which included demographic details, "perceived service quality factors, and overall satisfaction." Finding out how students felt about the services provided by their schools was the main goal of the survey. We used a seven-point Likert scale to rate everything (1 = strongly disagree, 7 = strongly agree). The perceived service aspects construct was operationalized into five dimensions personal, functional, intellectual, utility, and sustainable program quality with 30 items collected from the literature and modified through focus group discussions. Focus group discussions involving purposefully selected students from management, arts, and engineering fields (10 participants per group) provided insights into service aspects from a student standpoint. A note-based analysis was utilized to identify similar themes, which were then divided into dimensions. The items and dimensional nomenclature were finalized with expert validation from specialists in service quality and coordinators of NAAC and IQAC coordinators with over 20 years of experience.

Table 1: Extensive literature and focus group support

Dimensions	Source of reference from literature	No. of items	Focus group support
Personal aspects,	Voss et al., (2007);Usman, (2010); Nkiruka, (2015)	6	Yes
Functional factors,	Lagrosen et al., (2004); Hwang & Choi, (2019); Osman & Saputra, (2019) ;Abbas, (2020)	6	Yes
Academic factors	Chou,(2004);Brooks,(2015); Teeroovengadum et al., (2016)	5	Yes
Utility factors	Lagrosen et al., (2004); Joseph et al., (2005); (Jain et al., 2013)	5	Yes
Sustainable program quality	Giesenbauer & Müller-Christ, (2020) ;Chaudhary & Dey, (2021)	4	Yes
Student satisfaction	Teeroovengadum et al., (2016); Osman & Saputra, (2019) ;Chaudhary & Dey, (2021)	4	Yes

4. DATA ANALYSIS

4.1 Profile of respondents

Table 2: Demographic Profile of the Study respondents

	Frequency	% of frequency
Gender		
Male	171	47.5
Female	189	52.5
Age		
Below 20 years	109	30.27
21-25 years	195	54.17
26-above	56	15.56
Area of study		
Management	137	38
Arts	108	30
Engineering	115	32
Enrolled program		
Undergraduate	171	47.5
postgraduate	189	52.5
“Year of study”		
Year 1	85	23.6
Year 2	163	45.3
Year 3	96	26.7
Year 4	16	4.4
Ownership Pattern		
Government	177	49.17
Private/self-financing	151	41.94
Deemed	32	8.89

4.2 Factor Analysis

4.2.1 Exploratory factor analysis

EFA helps to identify the patterns of relationships among observed variables and uncovers the latent factors that might be influencing them. Principal component analysis with varimax rotation was used for the EFA (Table 3).

Only factors with eigenvalues exceeding 1.0 and factor loadings of more than 0.5 were retained (Leech, Barrett, & Morgan, 2005). The sample adequacy and validity of the results were evaluated using Bartlett's sphericity test and the “Kaiser-Meyer-Olkin (KMO)” measure, with factor analysis repeated iteratively to ensure structural integrity.

Table 3: Reliability and convergent validity of Constructs

“Higher-Order construct”	“Constructs”	“Items”	“Factor Loadings”	“Eigen Value, % Of Variance”	“Cronbach Alpha (A)”	“Composite Reliability (CR)”	“Average Variance Extracted (AVE)”
	Personal	PS1	0.829	8.180, 51.127%	0.870	0.920	0.794
		PS2	0.805				

Perceived Service Factors	factor	PS3	0.719				
	Utility factor	UF1	0.812	2.036, 12.726%	0.873	0.922	0.795
		UF2	0.783				
		UF3	0.763				
		UF3	0.763				
	Functional factor	FF1	0.768	1.126, 7.035%	0.910	0.943	0.847
		FF2	0.760				
		FF3	0.677				
	Academic factor	AF1	0.789	0.756, 4.724%	0.886	0.930	0.815
		AF2	0.690				
		AF3	0.665				
	Sustainable program quality	SPQ1	0.810	0.649, 4.057%	0.836	0.890	0.670
		SPQ3	0.797				
		SPQ3	0.754				
		SPQ4	0.560				
Student satisfaction		SS1	0.786	2.682, 67.057%	0.836	0.839	0.670
		SS2	0.700				
		SS3	0.679				
		SS4	0.672				

The 20 perception statements were subjected to EFA. The factor analysis revealed that KMO was 0.921. Bartlett's sphericity test yielded significant results. A five-factor solution was produced by the factor analysis, which guarantees that statements may be categorised into five separate factor dimensions according to their interrelationships. These items account for 79.666% of the total variance. The findings indicate that scholars do not agree on how to define quality assessment aspects in the context of higher education, despite the fact that this sector has its own distinct features (Clewes, 2003). The EFA conducted on student satisfaction revealed a unidimensional structure, KMO value is 0.778. The percentage of variance explained was 67.057%. Although the factor structure demonstrated by EFA is feasible, it needs to be further examined for reliability and validity.

4.2.2 Confirmatory Factor Analysis

The validity and reliability of each notion were assessed using CFA. Checking for internal consistency using CCFA was done to ascertain the validity and dependability of each notion, as shown in Table 3. The examination of

construct reliability and convergent validity was done using composite reliability ($CR > 0.7$) and average variance extracted ($AVE > 0.5$), as shown in Table 3. This indicates that the measurement model is suitable (Hair et al., 2010). Lastly, to examine discriminant validity, "the Heterotrait-Monotrait Ratio (HTMT) and the Fornell-Larcker criterion were used." Fornell and Larcker (1981) state that Cronbach's alpha should be greater than the squared correlations of each construct. As for construct reliability and convergent validity, they looked at composite reliability ($CR > 0.7$) and average variance extracted ($AVE > 0.5$). This indicated that the measurement model was suitable (Hair et al., 2010). As for discriminant validity, they used "the Heterotrait-Monotrait Ratio (HTMT)" and the Fornell-Larcker criterion. Fornell and Larcker (1981) state that the AVE of each construct should be larger than the square of its association with other constructs. The results reported in Table 4 demonstrate that this criterion was met, therefore confirming appropriate discriminant validity for all constructs.

Table 4: Fornell Larker Criterion (1981)

	PSF	AF	FF	PF	SS	SPF	UF
PSF	0.715						
AF	0.689	0.903					
FF	0.654	0.752	0.920				
PF	0.605	0.756	0.658	0.891			
SS	0.605	0.366	0.548	0.615	0.819		
SPF	0.605	0.366	0.548	0.396	0.596	0.819	
UF	0.594	0.625	0.505	0.396	0.406	0.406	0.893

Note: PSF: perceived service factor, AF: academic factor, FF: functional factor, PF: personal factor, SS: student satisfaction, SPF: sustainable program factor, UF: utility factor.

Following the Heterotrait-Monotrait Ratio (HTMT) criterion proposed by Henseler, Ringle, and Sarstedt (2015), values less than 0.85 (Henseler et al., 2015) indicate satisfactory discriminant validity, which was confirmed in the study as shown in Table 5.

Table 5: HTMT Criterion

	PSF	AF	FF	PF	SS	SPF	UF
PSF							
AF	0.741						
FF	0.730	0.837					
PF	0.731	0.757	0.738				
SS	0.728	0.422	0.597	0.704			
SPF	0.728	0.422	0.597	0.464	0.643		
UF	0.620	0.707	0.527	0.464	0.472	0.472	

Note: PSF: perceived service factor, AF: academic factor, FF: functional factor, PF: personal factor, SS: student satisfaction, SPF: sustainable program factor, UF: utility factor.

4.3 Evaluation of the Structural Model

To assess predictive relevance of the outer model, parameters such as R^2 or Q^2 are used to analyse the structural equation model. The measure of the predictive

relevance is important to ensure that the model is able to accurately predict outside the sample and that it is useful in predicting results, not just in terms of how well it fits the observed data. One of the most important measures of the fit of a model is the coefficient of determination, known as R^2 . It tells us how much of the variance in the dependent variable is accounted for by the independent variables, that is, the goodness of fit of the model.

Table 6: Coefficient of Determination (R^2) and Q^2

Dependent Constructs	R^2	Q^2
Student satisfaction	0.366	0.357

Hair et al. (2019) suggest that Q^2 is a valuable criterion for the prediction and values above zero indicate the adequate predictive power of the model. As is evident from the Table 6, all the dependent constructs are having positive Q^2 values which mean the proposed model is highly predictive in nature.

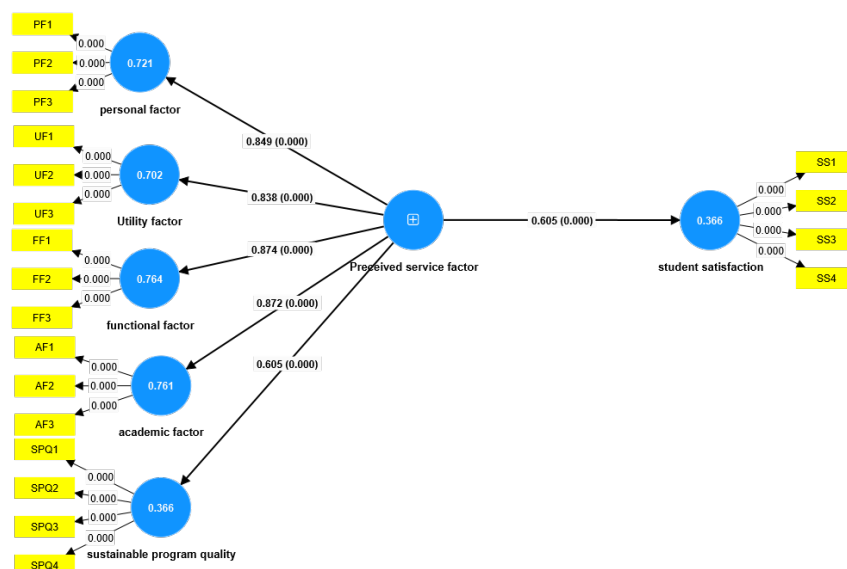
4.4 Hypotheses Analysis and Results (Direct Relationships)

All direct relationships between constructs were explored by the bootstrapping method provided by Hair, Sarstedt, and Ringle (2019). The p-values, path coefficients, and t-statistics in Table 7 are obtained by the bootstrapping. Table 7 shows the bootstrapping results for perceived service factors, which supports the hypothesis H1 since the significance parameter (t) is positive and substantial with the value of 9.869 and $p < 0.05$.

Table 7: “Hypotheses Analysis and Results (Direct Relationship)”

Effect	“Hypotheses”	“Beta Value”	“t-Statistics”	“p-Values”	“Remarks”
PSF → SS	H ₁	0.605	9.869**	0.000	Supported

Note: PSF: perceived service factors, SS: student satisfaction, ** indicates results are significant at 0.05 level.

**Figure 1:** Structural Equation Model

5. CONCLUSION

The study has been designed to assess the perceived factors of service which affect the satisfaction of students. To investigate these correlations a student driven approach was suggested, and the related hypotheses were tested and discussed below:

5.1 Influence of Perceived service factor on student satisfaction

The study found that the student perceived service features directly affect student satisfaction, thus confirming H1. This finding is in line with the established causal relationship in higher education literature (Teeroovengadam et al., 2016; Chaudhary & Dey, 2021). The higher the competence of instructors and staff, the better they meet student needs and the more they trust them, the higher their satisfaction will be.

5.2 Theoretical contribution

The study adds to theoretical knowledge by offering a comprehensive framework that includes all the elements of student perceptions of service factors and their effects on student satisfaction. It is concerned with program quality over time, a different aspect of perceived service elements. The study presented here contributes to the literature in several important ways, including the empirical evidence of a relationship between students' evaluations of sustained program quality and satisfaction. The study contributes significantly to the development of the field of sustainability in higher education, given the lack of empirical evidence and theory in this area.

Secondly, the approach of the study is student-centered, meaning that the study is no longer from the perspective of the provider or institution, but from the perspective of the students themselves. This student-centred perspective puts students at the centre of the service process of education by highlighting their important role in the satisfaction outcomes. This is consistent with existing theories of service in which student's perceptions play a critical role in measuring the quality of service and satisfaction with the service.

5.3 Practical implications

Perceived-service factors play an important role in the teaching-learning process and have an influence on student satisfaction and the flow of teaching activities. These factors are more likely to be of high quality and lead to higher student overall experiences with their education. These, in turn, give the institutions that focus on perceived service factors and constantly work to enhance the quality of their programs a better chance of retaining and satisfying students. The framework encourages continuous monitoring, evaluation and improvement. Carefully examining the perceived service elements and student's satisfaction scores can allow institutions to monitor over time, detect areas that are in need of improvement and use data-informed approaches to enhance overall service quality. The emphasis in the framework is on the need for institutional policies and procedures to be aligned with

student's expectations and preferences. By providing opportunities for professional learning, institutions can help in the development of a culture of service excellence and improving service delivery.

6. LIMITATIONS AND FUTURE RESEARCH

The study, like the earlier studies, recognizes some limitations that will suggest areas for future research. First, its coverage is only for enrolled students in higher education institutions in Uttarakhand, India; thus, the results may differ in institutions with different rankings, contexts, and academic environments. In order to improve the finding's generalizability, future studies should duplicate the suggested framework in a variety of educational institutions. In addition, the model could be expanded to incorporate the perspectives of many stakeholders such as teachers, administrators and policy makers. The moderating role of demographic characteristic in student's perceptions of service elements is another intriguing path for further research.

REFERENCES

1. Abbas, J. (2020). HEISQUAL: A modern approach to measure service quality in higher education institutions. *Studies in Educational Evaluation*, 67, 100933. <https://doi.org/10.1016/j.stueduc.2020.100933>
2. Adeyemi, A. M., & Adeyemi, S. B. (2014). Personal factors as predictors of student's academic achievement in colleges of education in South Western Nigeria. <https://doi.org/10.5897/err2014.1708>
3. Ahmad, S. Z. (2015). Evaluating student satisfaction of quality at international branch campuses. *Assessment & evaluation in higher education*, 40(4), 488-507. <https://doi.org/10.1080/02602938.2014.925082>
4. Allam, Z. (2018). Students' perception of quality in higher education: An empirical investigation. *Management Science Letters*, 8(5), 437-444. <https://doi.org/10.5267/j.msl.2018.4.002>
5. Almanwari, H. S. A., Saad, N. H. M., & Zainal, S. R. M. (2024). The influence of environment & location, personal motivation, and fee & price on satisfaction, attituding and behavioural loyalty among international students in Oman. *Journal of Open Innovation: Technology, Market, and Complexity*, 10(2), 100285. <https://doi.org/10.1016/j.joitmc.2024.100285>
6. Alves, H., & Raposo, M. (2007). Conceptual model of student satisfaction in higher education. *Total Quality Management*, 18(5), 571-588. <https://doi.org/10.1080/14783360601074315>
7. Alzoubi, H. M., & Ahmed, G. (2022). Perceived factors affecting students' academic

*Author for Correspondence: pallavisharmaa98@gmail.com

- performance. *Academy of Strategic Management Journal*, 21(4).
8. Appuhamilage, K. S. M., & Torii, H. (2019). The impact of loyalty on the student satisfaction in higher education: A structural equation modeling analysis. *Higher Education Evaluation and Development*, 13(2), 82-96. <https://doi.org/10.1108/HEED-01-2019-0003>
9. Awang, Z. (2012). Structural equation modeling using AMOS graphic. Penerbit Universiti Teknologi MARA.
10. Brady, M. K., & Cronin Jr, J. J. (2001). Some new thoughts on conceptualizing perceived service quality: a hierarchical approach. *Journal of marketing*, 65(3), 34-49. <https://doi.org/10.1509/jmkg.65.3.34.18334>
11. Brooks, R. (2005). Measuring university quality. *The Review of Higher Education*, 29(1), 1-21. <https://doi.org/10.1353/rhe.2005.0061>
12. Calma, A., & Dickson-Deane, C. (2020). The student as customer and quality in higher education. *International Journal of Educational Management*, 34(8), 1221-1235. <https://doi.org/10.1108/IJEM-03-2019-0093>
13. Chaudhary, S., & Dey, A. K. (2021). Influence of student-perceived service quality on sustainability practices of university and student satisfaction. *Quality Assurance in Education*, 29(1), 29-40. <https://doi.org/10.1108/QAE-10-2019-0107>
14. Chawla, P. Quality assurance in higher education institutions in Delhi ncr.
15. Chou, S. M. (2004). Evaluating the service quality of undergraduate nursing education in Taiwan—using quality function deployment. *Nurse Education Today*, 24(4), 310-318. <https://doi.org/10.1016/j.nedt.2004.02.005>
16. Clewes, D. (2003). A student-centred conceptual model of service quality in higher education. *Quality in higher education*, 9(1), 69-85. <https://doi.org/10.1080/13538320308163>
17. Del Río-Rama, M. D. L. C., Álvarez-García, J., Mun, N. K., & Durán-Sánchez, A. (2021). Influence of the quality perceived of service of a higher education center on the loyalty of students. *Frontiers in Psychology*, 12, 671407. <https://doi.org/10.3389/fpsyg.2021.671407>
18. El Alfy, S., & Abukari, A. (2020). Revisiting perceived service quality in higher education: Uncovering service quality dimensions for postgraduate students. *Journal of Marketing for Higher Education*, 30(1), 1-25. <https://doi.org/10.1080/08841241.2019.1648360>
19. Elliott, K. M., & Shin, D. (2002). Student satisfaction: An alternative approach to assessing this important concept. *Journal of Higher Education policy and management*, 24(2), 197-209. <https://doi.org/10.1080/1360080022000013518>
20. Eltahir, M. E., Annamalai, N., Uthayakumaran, A., Zyoud, S. H., Ramirez Garcia, A., Mažeikienė, V., ... & Al Salhi, N. R. (2023). Students' experiences of fairness in online assessment: A phenomenological study in a higher education institution context. *SAGE open*, 13(4), 21582440231209816. <https://doi.org/10.1177/21582440231209816>
21. Ezeokoli, R. N., & Ayodele, K. O. (2014). Dimensions of service quality encountered by students on sustainability of higher education in Nigeria. *Dimensions*, 4(6), 147-156.
22. Falk, A., & Fischbacher, U. (2006). A theory of reciprocity. *Games and economic behavior*, 54(2), 293-315. <https://doi.org/10.1016/j.geb.2005.03.001>
23. Farahmandian, S., Minavand, H., & Afshardost, M. (2013). Perceived service quality and student satisfaction in higher education. *Journal of Business and Management*, 12(4), 65-74.
24. Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, 18(1), 39-50. <https://doi.org/10.1177/002224378101800104>
25. García-Morales, V. J., Garrido-Moreno, A., & Martín-Rojas, R. (2021). The transformation of higher education after the COVID disruption: Emerging challenges in an online learning scenario. *Frontiers in psychology*, 12, 616059. <https://doi.org/10.3389/fpsyg.2021.616059>
26. Giesenbauer, B., & Müller-Christ, G. (2020). University 4.0: Promoting the transformation of higher education institutions toward sustainable development. *Sustainability*, 12(8), 3371. <https://doi.org/10.3390/su12083371>
27. Gupta, A. (2021). Focus on quality in higher education in India. *Indian Journal of Public Administration*, 67(1), 54-70. <https://doi.org/10.1177/00195561211007224>
28. Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing theory and Practice*, 19(2), 139-152. <https://doi.org/10.2753/MTP1069-6679190202>
29. Hair, J. F., Sarstedt, M., & Ringle, C. M. (2019). Rethinking some of the rethinking of partial least squares. *European journal of marketing*, 53(4), 566-584. <https://doi.org/10.1108/EJM-10-2018-0665>
30. Haverila, M., Haverila, K., McLaughlin, C., & Arora, M. (2021). Towards a comprehensive student

- satisfaction model. *The International Journal of Management Education*, 19(3), 100558. <https://doi.org/10.1016/j.ijme.2021.100558>
31. Gruber, T., Fuß, S., Voss, R., & Gläser-Zikuda, M. (2010). Examining student satisfaction with higher education services: Using a new measurement tool. *International journal of public sector management*, 23(2), 105-123. <https://doi.org/10.1108/09513551011022474>
32. Hwang, Y. S., & Choi, Y. K. (2019). Higher education service quality and student satisfaction, institutional image, and behavioral intention. *Social Behavior and Personality: an international journal*, 47(2), 1-12. <https://doi.org/10.2224/sbp.7622>
33. Kashif, M., Ramayah, T., & Sarifuddin, S. (2016). PAKSERV—measuring higher education service quality in a collectivist cultural context. *Total Quality Management & Business Excellence*, 27(3-4), 265-278. <https://doi.org/10.1080/14783363.2014.976939>
34. Jain, R., Sahney, S., & Sinha, G. (2013). Developing a scale to measure students' perception of service quality in the Indian context. *The TQM Journal*, 25(3), 276-294. <https://doi.org/10.1108/17542731311307456>
35. Joseph, M., Yakhou, M., & Stone, G. (2005). An educational institution's quest for service quality: customers' perspective. *Quality Assurance in Education*, 13(1), 66-82. <https://doi.org/10.1108/09684880510578669>
36. Lagrosen, S., Seyyed-Hashemi, R., & Leitner, M. (2004). Examination of the dimensions of quality in higher education. *Quality assurance in education*, 12(2), 61-69. <https://doi.org/10.1108/09684880410536431>
37. Lam, T. T. H., & Trang, N. Q. (2021). Service quality in higher education: Applying HEdPERF scale in Vietnamese universities. *Ho Chi Minh City opens University Journal of Science-Social Sciences*, 11(1), 101-115. <https://doi.org/10.46223/hcmcoujs.soci.en.11.1.1905.2021>
38. Larrán Jorge, M., Herrera Madueño, J., Calzado, Y., & Andrades, J. (2016). A proposal for measuring sustainability in universities: a case study of Spain. *International Journal of Sustainability in Higher Education*, 17(5), 671-697. <https://doi.org/10.1108/IJSHE-03-2015-0055>
39. LeBlanc, G., & Nguyen, N. (1999). Listening to the customer's voice: examining perceived service value among business college students. *International Journal of Educational Management*, 13(4), 187-198. <https://doi.org/10.1108/09513549910278106>
40. Malik, M. E., Danish, R. Q., & Usman, A. (2010). The impact of service quality on students' satisfaction in higher education institutes of Punjab. *Journal of Management Research*, 2(2), 1-11. <https://doi.org/10.5296/jmr.v2i2.418>
41. Martirosyan, N. (2015). An examination of factors contributing to student satisfaction in Armenian higher education. *International Journal of Educational Management*, 29(2), 177-191. <https://doi.org/10.1108/IJEM-09-2013-0143>
42. Mastoi, A. G., Hai, L. X., & Saengkrod, W. (2019). Higher education service quality based on students' satisfaction in Pakistan. *European Scientific Journal ESJ*, 15(11), 32-62. <http://dx.doi.org/10.19044/esj.2019.v15n11p32>
43. Neumann, J. W. (2013, April). Developing a new framework for conceptualizing "student-centered learning". In *The Educational Forum* (Vol. 77, No. 2, pp. 161-175). Taylor & Francis Group. <https://doi.org/10.1080/00131725.2012.761313>
44. Onditi, E. O., & Wechuli, T. W. (2017). Service quality and student satisfaction in higher education institutions: A review of literature. *International journal of scientific and research publications*, 7(7), 328-335.
45. Osman, A. R., & Saputra, R. S. (2019). A pragmatic model of student satisfaction: A viewpoint of private higher education. *Quality Assurance in Education*, 27(2), 142-165. <https://doi.org/10.1108/QAE-05-2017-0019>
46. Ozdemir, Y., Kaya, S. K., & Turhan, E. (2020). A scale to measure sustainable campus services in higher education: "Sustainable Service Quality". *Journal of Cleaner Production*, 245, 118839. <https://doi.org/10.1016/j.jclepro.2019.118839>
47. Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *Journal of marketing*, 49(4), 41-50. <https://doi.org/10.1177/002224298504900403>
48. Pheunpha, P. (2019). A factor analysis of student' perceived service quality in higher education. *ABAC Journal*, 39(4), 90-110.
49. Raju, M. S., & Bhaskar, N. U. (2017). Service Quality in Higher Education: A Review and Conceptual Model. *International Journal of Science and Technology*, 6(2).
50. Rozak, L. A., Bahri Arifin, M., Rykova, I. N., Grishina, O. A., Komariah, A., Nurdin, D., ... & Dudnik, O. V. (2022). Empirical evaluation of educational service quality in the current higher education system. *Emerging Science Journal*, 6(Special Issue), 55-77.

51. Sharabati, A. A. A., Alhileh, M. M., & Abusaimh, H. (2019). Effect of service quality on graduates' satisfaction. *Quality Assurance in Education*, 27(3), 320-337. <https://doi.org/10.1108/QAE-04-2018-0035>
52. Stukalina, Y. (2012). Addressing service quality issues in higher education: the educational environment evaluation from the students' perspective. *Technological and economic development of economy*, 18(1), 84-98. <https://doi.org/10.3846/20294913.2012.658099>
53. Subrahmanyam, A. (2017). Relationship between service quality, satisfaction, motivation and loyalty: A multi-dimensional perspective. *Quality Assurance in Education*, 25(2), 171-188. <https://doi.org/10.1108/QAE-04-2013-0016>
54. Sugiharto, N. A., & Hurriyati, R. (2020). The influence of perceived service quality and perceived price on students' satisfaction and recommendation. In *Advances in Business, Management and Entrepreneurship* (pp. 294-297). CRC Press.
55. Sumaedi, S., Mahatma Yuda Bakti, G., & Metasari, N. (2012). An empirical study of state university students' perceived service quality. *Quality assurance in Education*, 20(2), 164-183. <https://doi.org/10.1108/09684881211219424>
56. Teeroovengadum, V., Kamalanabhan, T. J., & Seebaluck, A. K. (2016). Measuring service quality in higher education: Development of a hierarchical model (HESQUAL). *Quality Assurance in Education*, 24(2), 244-258. <https://doi.org/10.1108/QAE-06-2014-0028>
57. Teeroovengadum, V., Nunkoo, R., Gronroos, C., Kamalanabhan, T. J., & Seebaluck, A. K. (2019). Higher education service quality, student satisfaction and loyalty: Validating the HESQUAL scale and testing an improved structural model. *Quality assurance in education*, 27(4), 427-445. <https://doi.org/10.1108/QAE-01-2019-0003>
58. Thongmak, M. (2019). The student experience of student-centered learning methods: Comparing gamification and flipped classroom. *Education for Information*, 35(2), 99-127. <https://doi.org/10.3233/EFI-180189>
59. Voss, R., Szmigin, I., & Gruber, T. (2006). Desire Expectations of Students—A Comparison of Different Laddering Techniques. In *1st European Conference on Higher Education Marketing*. <https://doi.org/10.1016/j.jbusres.2007.01.020>
60. Weerasinghe, I. M. S., & Fernando, R. L. S. I. (2018). Critical factors affecting students' satisfaction with higher education in Sri Lanka. *Quality Assurance in Education*, 26(1), 115-130. <https://doi.org/10.1108/QAE-04-2017-0014>
61. Wilkins, S., & Balakrishnan, M. S. (2013). Assessing student satisfaction in transnational higher education. *International Journal of Educational Management*, 27(2), 143-156. <https://doi.org/10.1108/09513541311297568>
62. Wong, W. H., & Chapman, E. (2023). Student satisfaction and interaction in higher education. *Higher education*, 85(5), 957-978.
63. Zeithaml, V. A., Bitner, M. J., & Gremler, D. D. (2018). *Services marketing: Integrating customer focus across the firm*. McGraw-Hill.
64. Zorio-Grima, A. (2020). Driving factors for having visibility of sustainability contents in university degree titles. *Journal of cleaner production*, 242, 114746. <https://doi.org/10.1016/j.jclepro.2018.10.344>