



### Determinants of students' satisfaction: Higher education perspective

 Abu Rashed  
Osman<sup>1+</sup>

 Mohd Hasanur  
Raihan Joarder<sup>2</sup>

 Mohammad Ali  
Ashraf<sup>3</sup>

<sup>1</sup>Sohar University, Faculty of Business, Sohar, Oman.

Email: [aosman@su.edu.om](mailto:aosman@su.edu.om)

<sup>2</sup>School of Business & Economics, United International University, Dhaka, Bangladesh.

Email: [raihan.joarder@bus.uuu.ac.bd](mailto:raihan.joarder@bus.uuu.ac.bd)

<sup>3</sup>United International University, Bangladesh.

Email: [mashraf@eco.bus.uuu.ac.bd](mailto:mashraf@eco.bus.uuu.ac.bd)



(+ Corresponding author)

### ABSTRACT

#### Article History

Received: 21 June 2023

Revised: 6 September 2023

Accepted: 9 February 2024

Published: 28 February 2024

#### Keywords

Institutional image

Intake quality of student

Service quality

Student satisfaction.

The intention of this paper is to verify students' satisfaction through service quality, institutional image, and intake quality from a higher education perspective. To satisfy this objective, the study collected 303 data points randomly from North South University, Brac University, and United International University, the top three non-government institutions in Bangladesh. Results exhibited that service quality, institutional image, and the intake quality of students are statistically significant predictors of student satisfaction. As a result, these factors are appropriate for explaining student satisfaction. From a practical point of view, academicians, scholars, and practitioners should emphasize service quality, intake quality of students, and institutional image as major determinants of student satisfaction. It is challenging to maintain student satisfaction in institutes of higher learning. University administrators will have a great deal of opportunity to make useful judgments for boosting student satisfaction by comprehending this point of view and this study's conceptual model. Additionally, this research would have a big impact on both policymakers and academics. This study concentrated on aspects of higher education that students highly value. To fortify this conceptual model, the study incorporated "intake quality of student" as an independent variable for determining student satisfaction, which is a fairly extraordinary effort to expose a theoretical gap.

**Contribution/Originality:** This study is a unique attempt to identify a gap, notably in the context of Bangladesh's best private universities, by using the quality of students' intake as an independent variable to explain student satisfaction.

## 1. INTRODUCTION

Scholars concentrated on student contentment since it is an essential outcome that has a consequential impact on students' drive and success in school (Hwang & Choi, 2019). According to numerous academics, student satisfaction is the best indicator of an institution's total level of service quality (Annamdevula & Bellamkonda, 2016; Khoo, Ha, & McGregor, 2015; Mansori, Vaz, & Ismail, 2014). It is the core basis of competitive advantage, and it has become the core competitive feature for universities. Hence, assessing student satisfaction is a continuous effort due to the frequent fluctuating behavior of students, so it is now mandatory to measure it to remain competitive in the education sector. In a competitive environment, customer satisfaction mostly depends upon how a service is rendered by a firm that meets or exceeds the customer's desires and becomes a distinguishable factor in marketing

strategy (Arambewela & Hall, 2009). While assessing customer satisfaction, an organization can acquire a signal of how successfully that organization has delivered products or services to end users (Munteanu, Ceobanu, Bobâlcă, & Anton, 2010). Students are major customers of tertiary education; thus, student satisfaction is one of the fundamental issues in the strategic executive process of many academic institutions today (Pia & Hakan, 1999). Along with Trudeau (2000), student contentment is an unwavering concern for numerous institutes of tertiary studies. This is obvious as a result of the unstable economic strength of tertiary education, the amplified demand for culpability from outside and in-house people, and the necessity to scan for satisfaction as a consequence of advanced education. Chan et al. (2003) indicated that higher education institutions deal with the highest tier of instruction. Thus, it is undoubtedly imperative to evaluate students' happiness in advanced learning institutions. Furthermore, the consequences of the assessment serve as a symbol for students' future endorsements of their chosen institute.

Learner pleasure plays a vital part in defining the exactness and acceptability of the services being delivered (Sapri, Kaka, & Finch, 2009). This is further invigorated by Barnett (2011), who claims that student contentment is essential as it is the single measurement device of service excellence. There are various techniques to describe aspects of student satisfaction. For instance, Kaldenberg, Browne, and Brown (1998) viewed aspects such as the merit of the coursework, non-syllabus-connected aspects, and other academic features as contributing factors to student satisfaction. Then again, Appleton-Knapp and Krentler (2006) segregated features manipulating learner fulfillment into two factors, such as institutional and personal. Institutional factors included excellence of instruction, timeliness of feedback, the teaching style, the study stress of the institute, and class size. Brokaw, Kennedy, and Merz (2004) recognized personal factors as the predictors of learner contentment, and these factors are age, masculinity, job, personality, desired learning styles, and average grade point. Thus, Chahal and Devi (2013) stressed that to ensure student satisfaction, service suppliers of advanced studies must agree to take both academic and individual factors into account. This study is greatly focused on institutional factors such as service excellence, intake quality of students, and institutional image.

From a Bangladeshi perspective, Mahmud, Khan, and Lima (2018) revealed very weak associations between general students' contentment and institutional factors. A significant percentage of students go abroad each year to finish their higher education. Other countries are drawing students from Bangladesh to study there as a result of their competitiveness in this field (UGC Bulletin, 2011). As a result of their competitiveness in this area, other nations are attracting students from Bangladesh to study there (UGC Bulletin, 2011). That's why Hossain, Hoq, Sultana, Islam, and Hassan (2019) rightly pointed out that student satisfaction is a contemporary issue and the theme of student satisfaction has not been explored expansively.

From a global point of view, several researchers suggest that service quality has a strong influence on learner fulfillment (Kara, Tanui, & Kalai, 2016; Mwiya et al., 2017; Osman, Sarkar, & Islam, 2017; Saravanan, 2018; Subrahmanyam, 2017). Additionally, Abdullah (2005) stressed that institutional image has a significant impact on student happiness. In this connection, Onditi and Wechuli (2017) suggested that educational and non-educational dimensions must be integrated for estimating student satisfaction in higher education. Recently, several scholars prudently disclosed that good standing has a considerable impact on learner satisfaction (Alwi et al., 2020; Muhammad, Kakakhel, & Shah, 2018; Panda, Pandey, Bennett, & Tian, 2019). In our study, we incorporated two non-academic constructs, such as the intake quality of students and institutional image, apart from service quality, according to the recommendation of Onditi and Wechuli (2017).

In actuality, the reputation and image of the school have a significant impact on learner satisfaction. As a result, student satisfaction and image are extreme topics to consider for retaining service excellence (Osman, Saputra, & Martino, 2018; Qazi, Qazi, Raza, & Yousufi, 2022). In the contemporary literature, several researchers have also revealed that learner contentment is based on observed quality, observed value, customer anticipations, and the name and fame of the institution (Dericks, Thompson, Roberts, & Phua, 2019; Osman & Saputra, 2019; Subrahmanyam, 2017; Teeroovengadum, Nunkoo, Gronroos, Kamalanabhan, & Seebaluck, 2019). In a clear manner,

quite a few scholars have acknowledged that image has an explaining power for student contentment (Chandra, Hafni, Chandra, Purwati, & Chandra, 2019; Mohammed, Salleh, Hamzah, & Yusof, 2023; Roche, 2014). A number of scholars have proposed limited aspects of institutional factors in the context of Bangladesh, such as instruction quality, student input quality, and faculty quality (Mamun, 2011; Naser, 2010; Osman & Ashraf, 2014). As well, Hoque, Mowla, Chowdhury, and Uddin (2013) stressed the student selection system because it describes a noteworthy segment of the deviation in quality education. Here, the student selection system is an illustration of the quality of the students' intake.

The ultimate intention of this endeavor is to judge the student contentment through service quality, institutional image, and intake quality of students in higher education. Indisputably, the notion of learner satisfaction has gained enormous consideration in marketing texts as well as tertiary-level education literature and has been exposed as a topic of substantial strategic concern. However, little is known concerning the aspects that predict student happiness, particularly from the standpoint of Bangladesh's leading non-government institutions. The current study exclusively considered institutional factors such as service quality, intake quality, and institutional image to explain student satisfaction.

## 2. LITERATURE REVIEW

### 2.1. Theoretical Underpinnings and Conceptual Model

Using equity theory as a foundation, the structure of this study model was recognized. The Equity Theory was developed by Adams (1963). It argues that client satisfaction is guaranteed when a particular group feels that some of the outcomes of an operation were achieved with inputs like cost, time, and energy (Oliver & DeSarbo, 1988). According to Grigoroudis and Siskos (2010), the Equity Theory has garnered widespread recognition for its ability to shed light on consumer satisfaction and behavior. Hoyer and MacInnis (2008) went on to say that this is the ideal theory for the discipline of marketing since it helps shed light on issues related to consumer happiness and discontent. Yuan, Qian, and Zhuo (2010) significantly enhanced this statement.

Figure 1 illustrates the equity theory of customer satisfaction.

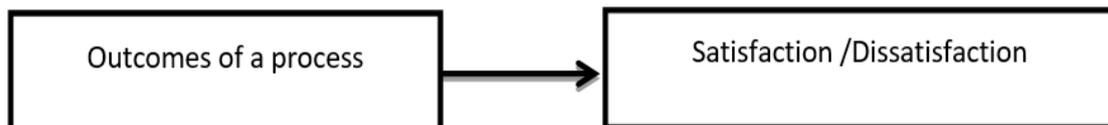


Figure 1. The equity theory of customer satisfaction.

Source: Oliver and DeSarbo (1988).

In this suggested conceptual model, agreeing with the association between service quality, intake quality of students, institutional image, and student satisfaction, it might be rational that once students register in an institution, they must travel through a number of service processes and receive diverse types of understanding. As a result, their observation of the direction of that experience would bring about either pleasure or dissatisfaction. In the meantime, disappointment will probably occur once students recognize that their desires do not coincide with their expectations. The theoretical structure indicates (see Figure 2) in what way independent constructs are influencing student contentment in the top three non-government institutions in Bangladesh. Intake quality of students and institutional image are fairly unexplored constructs in tertiary-level education that must be validated in the Bangladesh context. In the Bangladesh context, an insufficient number of investigators validated the institutional image (Osman & Saputra, 2019).

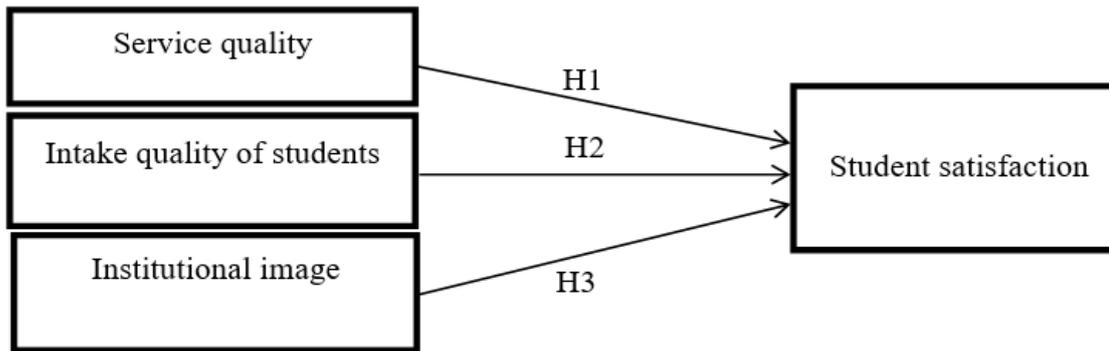


Figure 2. Student satisfaction model for private higher education.

## 2.2. Hypotheses Development

### 2.2.1. Service Quality and Student Satisfaction

According to a recent study by El Ahmad and Kawtharani (2021), service quality significantly influences student happiness. Essaoudi and Lotfi (2021) subsequent investigation found that superior customer service has a beneficial impact on learners' satisfaction. Numerous empirical studies, including those by Ali, Zhou, Hussain, Nair, and Ragavan (2016); Babaei, Rahimian, Ahmad, Omar, and Idris (2015); Chandra et al. (2019); and A. R. Osman and Saputra (2019), have found a link between service quality and student happiness. Ganesh and Haslinda (2019) conducted a study to ascertain whether service excellence has a significant impact on tertiary students' satisfaction. Using empirical data, Azam (2018) and Tabaku and Kruja (2019) further claimed that perceptible service excellence is favorably correlated with learner satisfaction. Additionally, Teeroovengadum et al. (2019) and Mulyono, Hadian, Purba, and Pramono (2020) conducted empirical tests to demonstrate the validity of the affiliation between technical service excellence and student contentment. Wijaya, Junaedi, and Hocky (2021) most recent research demonstrated that service excellence has a favorable impact on student contentment and significantly increases consumer pleasure. Therefore, the following is a way to state the hypothesis:

*H<sub>1</sub>: Service quality and student satisfaction are positively correlated.*

### 2.2.2. Intake Quality of Students and Student Satisfaction

Biggs (1993) stated unambiguously that the quality of the student is the presage construct, but no indicators were provided. Due to this demerit, it was difficult to operationalize the intake quality of student variables. However, Osman et al. (2017) operationalized the intake quality of student variables and empirically proved a statistically profound affiliation between the intake quality of students and student satisfaction. Recently, Ashraf and Ahmed (2022) demonstrated empirically that high-quality students have a meaningful influence on quality education ( $= 0.739$ ,  $p < 0.001$  level). They also emphasized how better pre-university preparation will help students absorb the quality lectures given by quality professors. Visualizing this concept, we can assume that the quality of students' intake may have some impact on overall learner satisfaction because a good-quality student enriches the academic environment through active engagement and is able to grab the essence of quality lectures. Therefore, the following is a way to state the hypothesis:

*H<sub>2</sub>: Student satisfaction and student intake quality are positively correlated.*

### 2.2.3. Image and Student Satisfaction

Recent empirical research by Osman and Saputra (2019) and Teeroovengadum et al. (2019) showed that the institution's reputation favorably affects students' satisfaction in higher education. When competing, image is a crucial asset (Landrum, Turrissi, & Harless, 1999). Usman and Mokhtar (2016) found, from a Nigerian perspective, that image has a favorable consequence for student satisfaction. According to a comparable study from the perspective of higher education, image has a constructive outcome on student satisfaction (Chandra et al., 2019;

Wijaya et al., 2021). The more satisfied students are with their education, the greater the institution's reputation is perceived to be (Rani & Nugraha, 2021). Most recently, Mohammed et al. (2023) noted that student contentment may be significantly influenced by the academic image of the university. Additionally, Panda et al. (2019) have demonstrated how a unique brand image boosts students' levels of pleasure. Thus, this study underlines the following hypothesis:

*H<sub>1</sub>: Image and student satisfaction are positively correlated.*

### 3. RESEARCH METHODOLOGY

#### 3.1. Data Compilation

The targeted respondents in this study were current students from the top three private universities in Bangladesh. Responses were gathered conveniently through a self-designed instrument from October 2022 to November 2022. The data was gathered at the university in front of a faculty member during routine class time. The intentions of the research were explained to the students during this session, and they received guarantees regarding the confidentiality and anonymity of their answers. For around 10 minutes, students willingly filled out the questionnaires on paper. A total of 309 samples were received out of 400 questionnaires distributed, representing a 77% response rate. A few samples were eliminated due to their incompleteness, and finally, 303 samples were properly analyzed through the statistical software AMOS (Analysis of Moment Structures) to rationalize several hypotheses. This research model included the intake quality of students as an exogenous variable, which is an extraordinary effort to explain a dependent variable. Most past researchers used service quality and institutional image (Wijaya et al., 2021), teaching quality (Gao, Zhuang, & Chang, 2021), student engagement (Manggarani, 2018), and quality improvement (Kanwar & Sanjeeva, 2022) to explain student satisfaction, ignoring intake quality.

#### 3.2. Instrument

The independent variable 'intake quality of student' has been incorporated in this study, comprising five indicators adapted from Osman et al. (2017). Sahney, Banwet, and Karunes (2006) recommended the student variable's intake quality but failed to pinpoint any connected items. A. Osman and Ashraf (2014) combined single-item measurement with "quality of student." This research proposes multi-aspects (five things) for verifying learner satisfaction after realizing the inadequacy of items in the "intake quality" category. Two of the five items were removed because of low factor loadings. The instrument's dependability was proven by the three-item average Cronbach's Alpha of 0.82. Cronin and Taylor (1992) developed 22 items to measure service quality using the SERVPERF model and its five dimensions. Türkyılmaz and Özkan (2007) used six refined indicators to assess institutional image. Last but not least, Sultan and Wong (2012) and Wilkins and Balakrishnan (2013) supported the use of eight metrics to differentiate between student satisfaction levels.

#### 3.3. Data Screening and Analysis

AMOS version 20 was used to carefully code, protect, and analyze the dataset. KMO and Bartlett's tests of sphericity were carried out to ensure that the data size was appropriate for further analysis. According to the study, the KMO (Kaiser-Myyer-Olkin) index was 0.853, and Bartlett's test of sphericity (sig. at 0.0001) indicated that the responses were adequate for factor analysis. The z-score of the skewness and kurtosis statistics served as the basis for the study's normalcy test. Because it denotes anomalous data, z-score skewness values greater than two must be transformed (Hair, Anderson, Tatham, & Black, 2010). At that moment, the transformed constructs were included in the ensuing CFA and fit models (see Figure 3).

3.4. Reliability Measure

The instrument's internal consistency was assured by applying Cronbach's alpha. It has a lower boundary value of 0.70, which can be lowered to 0.60 for exploratory investigations, according to Mohajan (2017). Thus, for inner homogeneity in this study, a Cronbach's alpha figure of 0.60 or above was validated. According to Table 2, the study's Cronbach's alpha ranged from 0.73 to 0.90. Convergent validity is used in this study to establish validity. The average variance extracted can be used to estimate convergence soundness.

Diamantopoulos and Siguaw (2000) proposed that the threshold value of 0.40 for AVE is good enough. However, according to Mohajan (2017), the AVE for each construct during the reliability analysis—which must be 0.50 or higher—measures convergent validity. This study followed the recommendation of Diamantopoulos and Siguaw (2000) to confirm convergent validity, which at least 40 percent explains variance. Composite reliability is an alternative method of assessing convergent validity. The recommended figure is 0.70 or higher (Hair, Black, Babib, Anderson, & Tatham, 2010). In this regard, our study has confirmed the recommended value (see Table 2). To verify the uni-dimensionality, the item loading must be 0.50 or greater for exploratory research (Zainudin, 2012). In this endeavor, item loadings below 0.50 were removed one item at a time, with the smallest one first. TSTQ1, TSTQ4, TRES4, TEMP2, TEMP3, and TEMP5 are being deleted. The progression was sustained until the uni-dimensionality was confirmed (see Table 2).

3.5. Discriminant Validity

A scholar advocated an extreme score of correlation involving two variables of 0.85 (Kline, 2011), whereas a few scholars proposed an extreme number of 0.90 (Teo, Srivastava, & Jiang, 2008), which is recognized for escaping multicollinearity. In this research endeavor, a correlation score of 0.90 was accepted to accomplish validity (see Table 1).

Table 1. Correlations between two constructs.

Constructs	SQ	STQ	IMG	SATIS
SQ	1			
STQ	0.20	1		
IMG	0.88	0.33	1	
SATIS	0.83	0.30	0.84	1

4. ANALYSIS AND RESULTS

4.1. Sample Profile

The proportions of several demographic traits among the students surveyed, including gender, current GPA (grade point average), HSC (higher secondary school certificate) level background, and financial advantage or scholarship, are shown in Table 3.

4.2. Descriptive Statistics

In respect of Table 4, the highest mean (3.90) is found related to the image, which implies that respondents' perceptions are fairly strong about the image of the school. The minimum mean value (3.36) is connected with the intake quality of students, which implies that respondents' perceptions are weak about the intake quality of students. The values of skewness and kurtosis also represent the normality of the data set. Hence, it specifies suitability for statistical analysis.

4.3. Confirmatory Factor Analysis (CFA)

It has the robust strength to judge a construct, and its items are consistent with the relevant construct. Prior to ensuring the confirmatory factor analysis for the entire variables, Cronbach Alpha, AVE, and composite

reliability must be met (Table 2). The final fit model (Figure 3) is fabricated once the confirmatory factor analysis is executed.

Table 2. Reliability, validity and Uni-dimensionality assessment.

Construct	Factor loadings	Cronbach alpha	Average variance extracted (AVE)	Composite reliability (CR)
Service quality (SQ)		0.82	0.82	0.93
Tan	0.75			
Res	0.86			
Rel	0.91			
Assu	0.81			
Emp	0.92			
Intake quality of student (STQ)		0.73	0.65	0.65
STQ2	0.58			
STQ3	0.91			
STQ5	0.58			
Image (IMG)		0.84	0.46	0.83
Img1	0.58			
Img2	0.68			
Img3	0.59			
Img4	0.71			
Img5	0.76			
Img6	0.74			
Satisfaction (SAT)		0.90	0.43	0.87
Satis1	0.69			
Satis2	0.65			
Satis3	0.70			
Satis4	0.71			
Satis5	0.66			
Satis6	0.51			
Satis7	0.61			
Satis8	0.65			

Table 3. Profile of survey respondents.

Sample n = 303		
Characteristics	Frequency	Percentage
Gender		
Male	130	42.9%
Female	173	57.1%
GPA		
Less than 3.0	70	23.1%
3.0 – 3.49	157	51.8%
3.5 and above	76	25.1%
HSC level background		
Bangla medium	258	85.1%
English version	16	5.3%
A level	26	8.6%
Madrassa	03	1.0%
Financial benefit/Scholarship	3	1.0%
Enjoying financial benefit/Scholarship	138	45.5%
Not enjoying financial benefit/Scholarship	165	54.5%

Table 4. Descriptive statistics.

Variables	Sample	Min.	Max.	Mean	Std. deviation	Skewness	Kurtosis
Service quality (SQ)	303	1.75	5	3.78	0.504	-0.416	0.844
Intake quality of student (STQ)	303	1	5	3.36	0.697	-0.057	1.604
Image (IMG)	303	2	5	3.90	0.620	-0.090	0.015
Student satisfaction (SAT)	303	1	5	3.78	0.717	-0.758	1.44

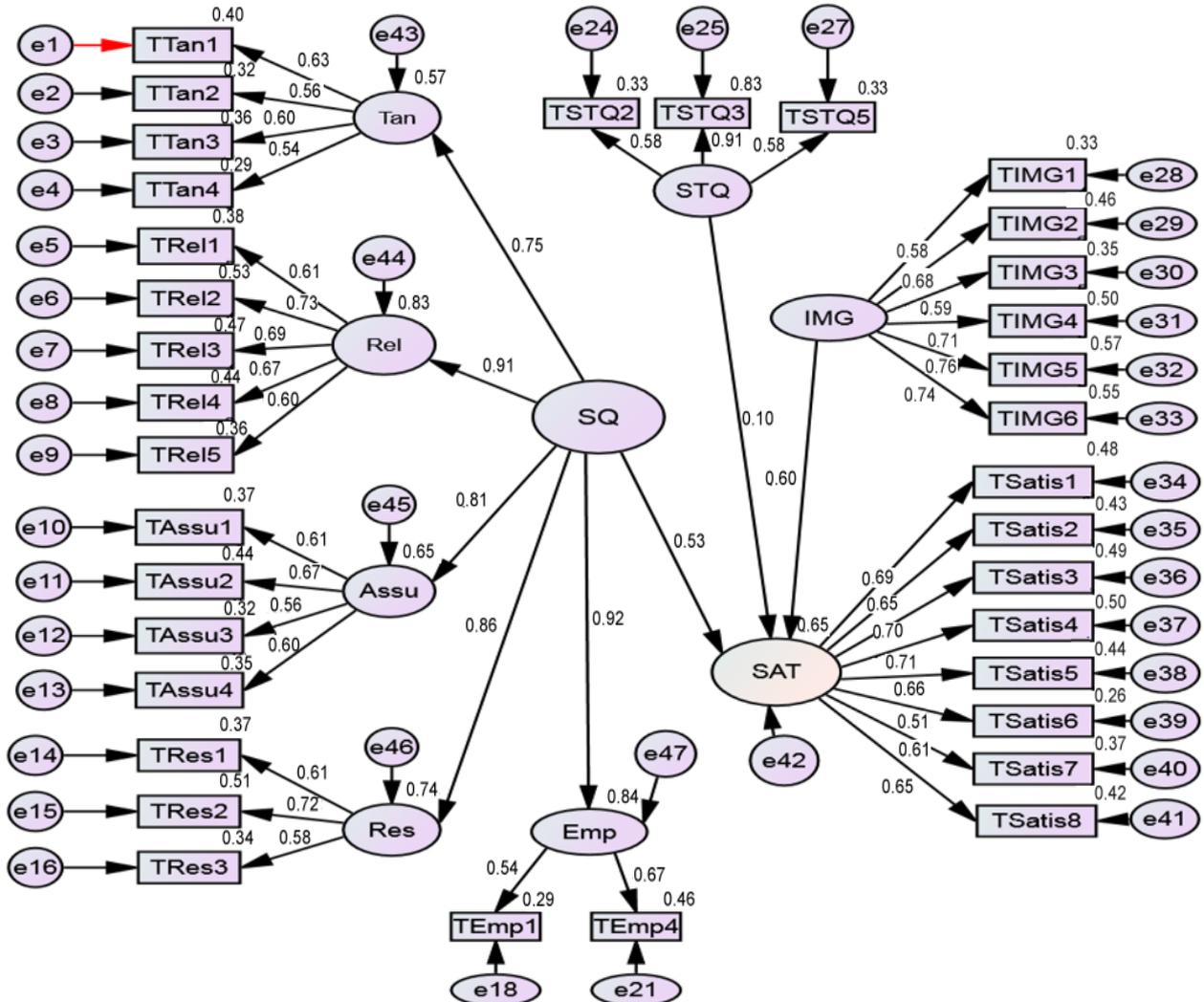


Figure 3. Final fit structural model for student satisfaction.

Note: Tan = Tangible, Rel = Reliability, Assu = Assurance, SQ = Service quality, STQ = Intake quality of student, IMG = Image, and SAT = Satisfaction.

4.4. Goodness of Fit

The research model’s effectiveness was verified by this investigation. As a minimum, one index from every group will ensure model fit, according to Hair, Anderson, et al. (2010) and Holmes-Smith (2001) recommendations. The goodness of fit in this investigation was therefore confirmed based on Table 5.

Table 5. Final fit model (Figure 3).

Name of classes	Index	Acceptable level	Comments
1. Absolute fit	RMSEA = 0.061	RMSEA < 0.08	Obligatory point is met
2. Incremental fit	CFI= 0.902	CFI > 0.90	Obligatory point is met
	TLI= 0.889	TLI > 0.90	Obligatory point is not met
3. Parsimonious fit	Chisq/df= 2.124	< 5.0	Obligatory point is met

Note: RMSEA = Root mean square error, CFI = Comparative fit index, TLI = Tucker-Lewis index.

4.5. Results of Hypothesis

Results of hypothesis are provided based on the final fit model (Figure 3), and path analysis is also shown to determine accepting or rejecting hypothesis below:

Table 6. Path analysis for hypothesis testing.

Hypothesis	Direct paths	Beta value	Status
H1	Service quality → Student satisfaction	SQ → SAT $\beta = 0.53, sig^{***}$	Significant at $p < 0.01$
H2	Intake quality of student → Student satisfaction	STQ → SAT $\beta = 0.10, sig^*$	Significant at $p < 0.10$
H3	Image → Student satisfaction	IMG → SAT $\beta = 0.60, sig^{***}$	Significant at $p < 0.01$

Note: \*\*\*  $p < 0.01$  and \*  $p < 0.10$ .

4.6. Evaluated Model

The study also presented the evaluated model to quickly realize the snapshot of the results of the study below:

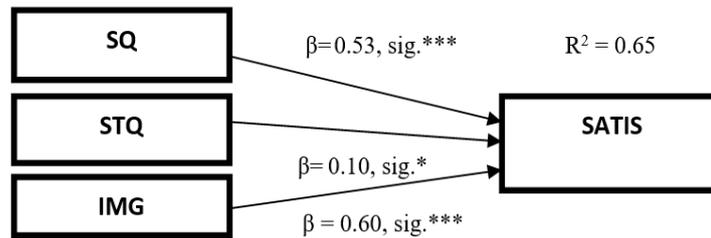


Figure 4. Evaluated model of student satisfaction.

Note: Sig.\*\*\* =  $0.01 < p$  and sig.\* =  $0.10 < p$ .

5. DISCUSSION

In respect to Table 6, the first hypothesis is favored by the study. The first hypothesis is consistent with the recent findings of Islam and Himel (2018), Sharabati, Alhileh, and Abusaimh (2019), and Wijaya et al. (2021). That means service excellence has a positive effect on student contentment in tertiary-level education, indicating that learner satisfaction can be increased by reinforcing the service excellence of education. Several researchers also agreed with this conclusion (Annamdevula & Bellamkonda, 2016; Khoo et al., 2015; Subrahmanyam, 2017; Tabaku & Kruja, 2019), apart from the study conducted by Dib and Mikhles (2013). At the present time, there is fierce competition in tertiary education, not only for local institutions but also for global ones. Thus, in order to gain a major market share, student contentment must be optimized, and one mechanism is to offer sophisticated service excellence (Stevens, Knutson, & Patton, 1995). As a result, Tahir, Bakar, and Ismail (2010) rightly pointed out that students select institutions that provide distinctive service quality and are obviously concerned about student satisfaction. Moreover, Donaldson and McNicholas (2004) postulated that students are always risk avoiders, and prior to selecting their institutions, they want to make sure those institutions are ensuring service quality. According to Figure 4, the study confirms the value of service quality is 0.53 and significant at  $p < 0.01$ , which is a clear symptom of the strong effect of service quality on student satisfaction. According to Table 6, the study showed a strong correlation between learner satisfaction and the caliber of the student intake. Accordingly, the second hypothesis is confirmed. This result is in line with that of Osman et al. (2017). Students in this situation think that the caliber of the student intake may have an impact on learner satisfaction. In Figure 4, the value (0.10) also signifies the same at the  $p < 0.10$  level. So, this relationship is no longer unrealistic, and in the future, more researchers can explore this affiliation to authenticate it further from the perspective of tertiary studies.

Referring to Table 6, research consequences showed that student satisfaction is boosted by the institution's reputation. As a result, the investigation supports the third hypothesis. Several well-known academics (El Ahmad &

Kawtharani, 2021; Silvestri, Aquilani, & Ruggieri, 2017; Toledo & Martínez, 2020; Weerasinghe & Farnando, 2018) have praised this finding. Recent research by Teddy, Layla, Stefani, Jennifer, and Astri (2019) discovered a statistically significant correlation between learner satisfaction and reputation. It implies that the positive feelings that students have about their institution have a major effect on their emotional reactions and assessments of their overall experience. The significant impact of image on student happiness demonstrates how students continue to identify with their university's reputation, not just during but also beyond the consumption process. In Figure 4, the value (0.60) also signifies the same sense at the p 0.01 level. Finally, Figure 4 shows that service quality, student quality, and institutional image explained 65% of the variation in student satisfaction, indicating that these factors are important for illuminating learner satisfaction.

## 6. LIMITATIONS

The fact that this study was conducted exclusively from the perspective of a private university and that the sample size was insufficient to apply the findings to higher education environments are just two of the research's inherent limitations. Second, the survey only covered Bangladesh's top three private universities. Thirdly, while there are many variables that can affect student happiness, this study solely considers independent variables. Finally, the use of cross-sectional data has limitations on some of the results. To facilitate generalizing the research findings, it is advised that future studies include more universities from across the nation with enough samples to encompass other fields of study. The study encourages researchers to conduct research in many countries and at various times.

## 7. CONCLUSION

The core intention of this endeavor is to explore student satisfaction through service quality, image, and intake quality from a higher education perspective. The results of this investigation revealed that service quality, intake quality of students, and institutional image are all statistically significant for explaining student satisfaction. In other words, the investigation found evidence to support every hypothesis. As a result, the study's findings that service quality, student intake quality, and institution image are uncompromising aspects of student satisfaction are reasonable. Furthermore, the study found that these three variables account for 65 percent of the deviation in student satisfaction. Thus, the study has the right to claim that these constructs are strong predictors of student satisfaction and that nurturing these variables is crucial to reaching or surpassing student satisfaction. Future research can be done to confirm the validity of the suggested framework in several institutions across the universe.

**Funding:** This study received no specific financial support.

**Institutional Review Board Statement:** The Ethical Committee of the Sohar University, Oman has granted approval for this study (Ref. No. UEB2023-SU Staff-015).

**Transparency:** The authors state that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.

**Competing Interests:** The authors declare that they have no competing interests.

**Authors' Contributions:** All authors contributed equally to the conception and design of the study. All authors have read and agreed to the published version of the manuscript.

## REFERENCES

- Abdullah, F. (2005). HEDPERF versus SERVPERF: The quest for ideal measuring instrument of service quality in higher education sector. *Quality Assurance in Education*, 13(4), 305-328. <https://doi.org/10.1108/09684880510626584>
- Adams, J. S. (1963). Toward an understanding of inequality. *Journal of Abnormal and Social Psychology*, 67(5), 422-436.
- Ali, F., Zhou, Y., Hussain, K., Nair, P. K., & Ragavan, N. A. (2016). Does higher education service quality effect student satisfaction, image and loyalty? A study of international students in Malaysian public universities. *Quality Assurance in Education*, 24(1), 70-94. <https://doi.org/10.1108/qaee-02-2014-0008>

- Alwi, S., Che-Ha, N., Nguyen, B., Ghazali, E. M., Mutum, D. M., & Kitchen, P. J. (2020). Projecting university brand image via satisfaction and behavioral response: Perspectives from UK-based Malaysian students. *Qualitative Market Research: An International Journal*, 23(1), 47-68. <https://doi.org/10.1108/qmr-12-2017-0191>
- Annamdevula, S., & Bellamkonda, R. S. (2016). Effect of student perceived service quality on student satisfaction, loyalty and motivation in Indian University. *Journal of Service Management*, 11(2), 488-517. <http://doi.org/10.1108/MBE-09-2016-0047>
- Appleton-Knapp, S. L., & Krentler, K. A. (2006). Measuring student expectations and their effects on satisfaction: The importance of managing student expectations. *Journal of Marketing Education*, 28(3), 254-264. <https://doi.org/10.1177/0273475306293359>
- Arambewela, R., & Hall, J. (2009). An empirical model of international student satisfaction. *Asia Pacific Journal of Marketing and Logistics*, 21(4), 555-569. <https://doi.org/10.1108/13555850910997599>
- Ashraf, M. A., & Ahmed, H. (2022). Approaches to quality education in tertiary sector: An empirical study using PLS-SEM. *Education Research International*, 2022, 1-12. <https://doi.org/10.1155/2022/5491496>
- Azam, A. (2018). Service quality dimensions and students' satisfaction: A study of Saudi Arabian private higher education institutions. *European Online Journal of Natural and Social Sciences*, 7(2), 275-284.
- Babaei, D., Rahimian, H., Ahmad, A., Omar, Z., & Idris, K. (2015). Ability mediation effects in the relationships between human resource practices and service quality. *Iranian Journal of Management Studies*, 8(1), 5-25.
- Barnett, R. (2011). The marketised university: Defending the indefensible. In Molesworth, M., Scullion, R. and Nixxon, E. (Eds), *The Marketisation of Higher Education and the Student as Customer*. In (pp. 39-52). Oxon: Routledge.
- Biggs, J. B. (1993). From theory to practice: A cognitive systems approach. *Higher Education Research and Development*, 12(1), 73-85. <https://doi.org/10.1080/0729436930120107>
- Brokaw, A. J., Kennedy, W. A., & Merz, T. E. (2004). Explaining student satisfaction. *Journal of Business Education*, 38(1), 10-20. [https://doi.org/10.1007/978-3-642-13166-0\\_92](https://doi.org/10.1007/978-3-642-13166-0_92)
- Chahal, H., & Devi, P. (2013). Identifying satisfied/dissatisfied service encounters in higher education. *Quality Assurance in Education*, 21(2), 211-222. <https://doi.org/10.1108/09684881311310728>
- Chan, L. K., Hui, Y. V., Lo, H. P., Tse, S. K., Tso, G. K., & Wu, M. L. (2003). Consumer satisfaction index: New practice and findings. *European Journal of Marketing*, 37(5/6), 872-909. <https://doi.org/10.1108/03090560310465189>
- Chandra, T., Hafni, L., Chandra, S., Purwati, A. A., & Chandra, J. (2019). The influence of service quality, university image on student satisfaction and student loyalty. *Benchmarking: An International Journal*, 26(5), 1533-1549. <https://doi.org/10.1108/bij-07-2018-0212>
- Cronin, J. J. J., & Taylor, S. A. (1992). Measuring service quality: A reexamination and extension. *Journal of Marketing*, 56(3), 55-68. <https://doi.org/10.1177/002224299205600304>
- Dericks, G., Thompson, E., Roberts, M., & Phua, F. (2019). Determinants of PhD student satisfaction: The roles of supervisor, department, and peer qualities. *Assessment & Evaluation in Higher Education*, 44(7), 1053-1068. <https://doi.org/10.1080/02602938.2019.1570484>
- Diamantopoulos, A., & Siguaw, J. A. (2000). *Introducing LISREL*. London: Sage International.
- Dib, H., & Mokhles, A. (2013). The impact of service quality on student satisfaction and behavioral consequences in higher education services. *International Journal of Economy, Management and Social Sciences*, 2(6), 285-290.
- Donaldson, B., & McNicholas, C. (2004). Understanding the postgraduate education market for UK-based students: A review and empirical study. *International Journal of Nonprofit and Voluntary Sector Marketing*, 9(4), 346-360. <https://doi.org/10.1002/nvsm.259>
- El Ahmad, A. H., & Kawtharani, A. M. (2021). Service quality and students' satisfaction in private Lebanese higher education institutions: The case of x university. *Journal of Higher Education Policy and Leadership Studies*, 2(3), 100-118. <https://doi.org/10.52547/johepal.2.3.100>
- Essaoudi, M., & Lotfi, R. (2021). Effect of service quality on student-inspector satisfaction at the training center for educational inspectors in Rabat, Morocco. *International Journal of Information Technology and Applied Sciences*, 3(2), 53-62. <https://doi.org/10.52502/ijitas.v3i2.23>

- Ganesh, R., & Haslinda, A. (2019). Evaluation of students' satisfaction with perceived performance value projection in Malaysian private higher education institutions. *International Journal of Services, Economics and Management*, 10(3), 266-287. <https://doi.org/10.1504/ijsem.2019.10024686>
- Gao, S., Zhuang, J., & Chang, Y. (2021). Influencing factors of student satisfaction with the teaching quality of fundamentals of entrepreneurship course under the background of innovation and entrepreneurship. *Frontiers in Education*, 6, 1-9. <https://doi.org/10.3389/feduc.2021.730616>
- Grigoroudis, E., & Siskos, Y. (2010). *Customer satisfaction evaluation: Methods for measuring and implementing service quality*. New York: Springer.
- Hair, J. F. J., Anderson, R. E., Tatham, R. L., & Black, W. C. (2010). *Multivariate data analysis with readings* (7th ed.). Englewood, New Jersey: USA: Prentice Hall Inc.
- Hair, J. F. J., Black, W. C., Babib, B. J., Anderson, R. E., & Tatham, R. L. (2010). *Multivariate data analysis: A global perspective*. New York: Prentice Hall.
- Holmes-Smith, P. (2001). *Introduction to structural equation modelling using LISREL*. Perth: ACSPRI-Winter Training Program.
- Hoque, N., Mowla, M. M., Chowdhury, H. A., & Uddin, S. M. (2013). Quality of education in Bangladesh: A survey on private business schools. *Information and Knowledge Management*, 3(5), 117-126.
- Hossain, E. M., Hoq, N. M., Sultana, I., Islam, R., & Hassan, Z. M. (2019). Determinants of students' satisfaction at higher education institution in Bangladesh: Evidence from private and public universities. *Malaysian Online Journal of Education*, 3(1), 49-58. <https://doi.org/10.53840/attarbawiy.v3i1.66>
- Hoyer, W. D., & MacInnis, D. J. (2008). *Consumer behaviour* (5th ed.). USA: South-Western, Cengage Learning.
- 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>
- Islam, S., & Himel, S. H. (2018). Services quality and students' satisfaction: A study on the public higher education institutions (HEIs) of Bangladesh. *Journal of Business*, 39(2), 135-149.
- Kaldenberg, D., Browne, W., & Brown, D. (1998). Student as customer: Factors affecting satisfaction and assessments of institutional quality. *Journal of Marketing Management*, 8(3), 1-14. [https://doi.org/10.1300/J050v08n03\\_01](https://doi.org/10.1300/J050v08n03_01)
- Kanwar, A., & Sanjeeva, M. (2022). Student satisfaction survey: A key for quality improvement in the higher education institution. *Journal of Innovation and Entrepreneurship*, 11(1), 1-10. <https://doi.org/10.1186/s13731-022-00196-6>
- Kara, A. M., Tanui, E., & Kalai, J. M. (2016). Educational service quality and students' satisfaction in public universities in Kenya. *International Journal of Education and Social Science*, 10(3), 37-48.
- Khoo, S., Ha, H., & McGregor, S. L. T. (2015). Service quality and student/customer satisfaction in the private tertiary education sector in Singapore. *Journal of Service Management*, 26(2), 430-444.
- Kline, R. B. (2011). *Principles and practice of structural equation modeling* (3rd ed.). New York: The Guilford Press.
- Landrum, R. E., Turrisi, R., & Harless, C. (1999). University image: The benefits of assessment and modeling. *Journal of Marketing for Higher Education*, 9(1), 53-68. [https://doi.org/10.1300/j050v09n01\\_05](https://doi.org/10.1300/j050v09n01_05)
- Mahmud, S. M., Khan, G. A., & Lima, P. R. (2018). Measuring students' satisfaction in the universities of Bangladesh: An empirical analysis. *International Journal of Multidisciplinary Research and Development*, 5(6), 30-38.
- Mamun, M. Z. (2011). Quality of private university graduates of Bangladesh: The employers' perspective. *South Asian Journal of Management*, 18(3), 48-68.
- Manggarani, C. A. (2018). The role of customer engagement on customer loyalty: A study at a private higher education institution. *Hasanuddin Economics and Business Review*, 2(1), 71-82. <https://doi.org/10.26487/hebr.v2i1.1483>
- Mansori, S., Vaz, A. F., & Ismail, Z. (2014). Service quality, satisfaction and student loyalty in Malaysian private education. *Asian Social Science*, 10(7), 57-66. <http://doi.org/10.5539/ass.v10n7p57>
- Mohajan, H. K. (2017). Two criteria for good measurements in research: Validity and reliability. *Annals of Spiru Haret University. Economic Series*, 17(4), 59-82. <https://doi.org/10.26458/1746>

- Mohammed, N. H., Salleh, S. M., Hamzah, S. F. M., & Yusof, H. S. M. (2023). Mediating effect of institutional image on the relationship between student satisfaction and student loyalty in higher learning institutions using the HEDPERF model. *Asian Journal of University Education*, 19(1), 72-82. <https://doi.org/10.24191/ajue.v19i1.21221>
- Muhammad, N., Kakakhel, S. J., & Shah, F. A. (2018). Effect of service quality on customers satisfaction: An application of HEDPERF model. *Review of Economics and Development Studies*, 4(2), 165-177. <https://doi.org/10.26710/reads.v4i2.387>
- Mulyono, H., Hadian, A., Purba, N., & Pramono, R. (2020). Effect of service quality toward student satisfaction and loyalty in higher education. *The Journal of Asian Finance, Economics and Business*, 7(10), 929-938. <https://doi.org/10.13106/jafeb.2020.vol7.no10.929>
- Munteanu, C., Ceobanu, C., Bobâlă, C., & Anton, O. (2010). An analysis of customer satisfaction in a higher education context. *International Journal of Public Sector Management*, 23(2), 124-140. <https://doi.org/10.1108/09513551011022483>
- Mwiya, B., Bwalya, J., Siachinji, B., Sikombe, S., Chanda, H., & Chawala, M. (2017). Higher education quality and student satisfaction nexus: Evidence from Zambia. *Creative Education*, 8(7), 1044-1068. <https://doi.org/10.4236/ce.2017.87076>
- Naser, M. A. (2010). *Education quality of private universities in Bangladesh: Faculty resources and infrastructure perspective*. Unpublished Doctoral Dissertation, Kent State University, Kent, Ohio.
- Oliver, R. L., & DeSarbo, W. S. (1988). Response determinants in satisfaction judgments. *Journal of Consumer Research*, 14(4), 495-507. <https://doi.org/10.1086/209131>
- 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.
- Osman, A., & Ashraf, M. A. (2014). A quality probe of the private MBA program: Evidence from Bangladesh. *Journal of Education and Practice*, 5(23), 58-66.
- Osman, A., Saputra, R., & Martino, L. (2018). Exploring mediating role of institutional image through a complete structural equation modeling (SEM): A perspective of higher education. *International Journal for Quality Research*, 12(2), 517-536.
- 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>
- Osman, A. R. D., Sarkar, J. B., & Islam, E. M. S. (2017). Revisiting student satisfaction through SERVQUAL: Private tertiary education perspective. *British Journal of Education*, 5(11), 119-137.
- Panda, S., Pandey, S. C., Bennett, A., & Tian, X. (2019). University brand image as competitive advantage: A two-country study. *International Journal of Educational Management*, 33(2), 234-251. <https://doi.org/10.1108/ijem-12-2017-0374>
- Pia, S. W., & Hakan, W. (1999). Student focused design and improvement of university courses. *Managing Service Quality*, 9(6), 434-443. <https://doi.org/10.1108/09604529910302118>
- Qazi, Z., Qazi, W., Raza, S. A., & Yousufi, S. Q. (2022). The antecedents affecting university reputation and student satisfaction: A study in higher education context. *Corporate Reputation Review*, 25(4), 253-271. <https://doi.org/10.1057/s41299-021-00126-4>
- Rani, L. A. S., & Nugraha, J. (2021). The effect of service quality, school image and student satisfaction on loyalty. *Economic Education Analysis Journal*, 10(3), 432-443. <https://doi.org/10.15294/eeaj.v10i3.48566>
- Roche, I. D. (2014). An empirical investigation of internet banking service quality, corporate image and the impact on customer satisfaction; with special reference to Sri Lankan banking sector. *Journal of Internet Banking and Commerce*, 19(2), 1-18.
- Sahney, S., Banwet, D., & Karunes, S. (2006). An integrated framework for quality in education: Application of quality function deployment, interpretive structural modelling and path analysis. *Total Quality Management & Business Excellence*, 17(2), 265-285. <https://doi.org/10.1080/14783360500450376>
- Sapri, M., Kaka, A., & Finch, E. (2009). Factors that influence student's level of satisfaction with regards to higher educational facilities services. *Malaysian Journal of Real Estate*, 4(1), 34-51.
- Saravanan, L. (2018). A study of students' satisfaction level towards service quality of teacher education colleges with special reference Erode district. *Shanlax International Journal of Commerce*, 6(1), 52-58.
- 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>

- Silvestri, C., Aquilani, B., & Ruggieri, A. (2017). Service quality and customer satisfaction in thermal tourism. *The TQM Journal*, 29(1), 55-81. <https://doi.org/10.1108/tqm-06-2015-0089>
- Stevens, P., Knutson, B., & Patton, M. (1995). DINESERV: A tool for measuring service quality in restaurants. *Cornell Hotel and Restaurant Administration Quarterly*, 36(2), 56-60. <https://doi.org/10.1177/001088049503600226>
- 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/qaе-04-2013-0016>
- Sultan, P., & Wong, Y. H. (2012). Service quality in a higher education context: An integrated model. *Asia Pacific Journal of Marketing and Logistics*, 24(5), 755-784. <https://doi.org/10.1108/13555851211278196>
- Tabaku, E., & Kruja, D. (2019). An integrated framework for customer loyalty in the hotel sector. *Serbian Journal of Management*, 14(1), 205-221. <https://doi.org/10.5937/sjm14-18253>
- Tahir, I., Bakar, N., & Ismail, W. (2010). Importance-performance analysis of service quality among business students: An exploratory study. *Interdisciplinary Journal of Contemporary Research of Business*, 2(1), 330-341.
- Teddy, C., Layla, H., Stefani, C., Jennifer, C., & Astri, A. P. (2019). The influence of service quality, university image on student satisfaction and student loyalty. *Benchmarking: An International Journal*, 26(5), 1533-1549. <https://doi.org/10.1108/BIJ-07-2018-0212>
- Teeroovengadam, V., Nunkoo, R., Gronroos, C., Kamalanabhan, T., & 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/qaе-01-2019-0003>
- Teo, T. S., Srivastava, S. C., & Jiang, L. (2008). Trust and electronic government success: An empirical study. *Journal of Management Information Systems*, 25(3), 99-132. <https://doi.org/10.2753/mis0742-1222250303>
- Toledo, D. L., & Martínez, L. T. (2020). How loyal can a graduate ever be? The influence of motivation and employment on student loyalty. *Studies in Higher Education*, 45(2), 353-374. <https://doi.org/10.1080/03075079.2018.1532987>
- Trudean, C. S. (2000). *A study of overall student satisfaction and the factors influencing satisfaction at a mid-western church related college*. Unpublished EdD Dissertation, Indiana University, USA.
- Türkyılmaz, A., & Özkan, C. (2007). Development of a customer satisfaction index model: An application to the Turkish mobile phone sector. *Industrial Management & Data Systems*, 107(5), 672-687. <https://doi.org/10.1108/02635570710750426>
- UGC Bulletin. (2011). *UGC bulletin*. Retrieved from [www.ugc.gov.bd/activities/ugcbulletin](http://www.ugc.gov.bd/activities/ugcbulletin)
- Usman, U., & Mokhtar, M. S. S. (2016). Analysis of service quality, university image and student satisfaction on student loyalty in higher education in Nigeria. *International Business Management*, 10(12), 2490-2502.
- Weerasinghe, I. M. S., & Farnando, R. L. S. (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>
- Wijaya, E., Junaedi, A. T., & Hocky, A. (2021). Service quality, institutional image and satisfaction: Can drivers student loyalty? *Asia Pacific Management and Business Application*, 9(3), 285-296.
- 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>
- Yuan, H., Qian, Y., & Zhuo, F. (2010). *Modeling structure of customer satisfaction with service recovery*. Paper presented at the 2010 International Conference on Service Quality.
- Zainudin, A. (2012). *Structural equation modeling using AMOS graphics*. Malaysia: Penerbit Press, University Technology Mara.

*Views and opinions expressed in this article are the views and opinions of the author(s), Humanities and Social Sciences Letters shall not be responsible or answerable for any loss, damage or liability etc. caused in relation to/arising out of the use of the content.*