

# ***Role of Teacher Quality, System Quality, and Academic Aspect to Enhance Student Satisfaction and Loyalty: Moderating Effect of E-WOM***

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**Abstract:** Students are assets for universities who remain loyal to the university because of quality education. Therefore, the present study examined the effect of teacher quality, system quality, and academic aspects on student satisfaction and student loyalty. The present study also examined the moderating effect of e-WOM and the mediating effect of student satisfaction. This study used a deductive quantitative method. Data were collected using a questionnaire from university students. The sampling technique of the study was the simple random method. The response rate of the study was 59.68%. Smart PLS was used for the analysis of the collected data. Results confirmed that teacher quality, system quality, and academic aspects have a positive effect on student satisfaction. Moreover, student loyalty is positively affected by student satisfaction. Furthermore, the findings confirm the mediating effect of student satisfaction. Also, the moderating role of e-WOM is statistically supported. Present research adds to the body of knowledge by discussing moderating role of e-WOM on the path of student satisfaction and student loyalty.

**Keywords:** System Quality, Teacher Quality, Student Satisfaction, Student Loyalty, Education Quality.

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## **1. Introduction**

Education over the last few decades has become increasingly competitive with the emergence of digital technology (Alenezi, 2023). Higher educational institutions are focusing on factors that can enhance education quality to retain students. Later, these students recommend educational institutions based on the education quality they experienced. On the basis of education quality, students remain loyal to the educational institution. Student

loyalty is important as it shapes the long-term attachment of students to the university (Osman et al., 2024). Students remain loyal when they experience institutional support, the learning environment, and academic quality collectively (Gbobaniyi et al., 2023). These factors influence student satisfaction, which later affects student loyalty in the form of continued engagement, positive word-of-mouth, and student retention.

In the context of higher education, students are not only consuming academic services; in fact, they invest in a holistic experience value based on the contextual, social, and academic factors of the university. Student loyalty is considered an integral factor for sustainability. Loyal students are considered strategic assets for the university, as they are more cost-effective compared to acquiring new students (Todea et al., 2022). Moreover, loyal students are considered an important asset because they contribute to long-term success, stability, and institutional reputation overall (Lacap & Cortez, 2023). So, it is important to look for factors that enhance student loyalty. One of these factors is student satisfaction.

From the perspective of higher education, student satisfaction is considered as critical for the success of educational institutions (Kanwar & Sanjeeva, 2022). Therefore, the primary focus of many universities is to maximize student satisfaction. Student satisfaction is also considered one of the factors showing the performance of education institutions. Competition among higher education institutions has intensified because of the emergence of new technology, for which universities are investing in elements that can develop satisfaction among students (Supriyanto et al., 2024). Student satisfaction shows how learners perceive their overall learning experience clearly. Students show satisfaction when they are satisfied with the quality of online material provided by teachers, teacher quality, and learning experience at the educational institution. Student satisfaction is one of the factors that determines overall success of the institution, as satisfied students spread positive word of mouth and recommend institute to others. As a result, intentions to seek admission to the same institution rise among potential students. One of the factors that enhances student satisfaction is teacher quality (Muzammil et al., 2020).

Teacher Quality is one of the important factors to provide quality education to the students. Teacher quality is dependent upon knowledge, skills and pedagogy techniques used by the teachers (Zalli, 2021). Teacher quality shows the personal characteristics of the teacher that impact the academics of students. Teacher quality is important for the long-term academic success of students, student engagement, and enhancing the positive image of the educational institute. High-quality teachers give importance to using effective pedagogy and develop interactive communication within the class (Towers et al., 2025).

System quality refers to the overall functionality and performance of information systems based on attributes such as ease of use, stability, response time, reliability, and technical efficiency levels (Sarwosri et al., 2023). In the context of higher education, system quality shows the technical characteristics and design of platforms that support learning activities. System quality shows the efficiency, usability, and reliability of administrative and academic information systems that support learning and teaching activities (Almusfar, 2025). System quality ensures that online academic services, student portals and management systems provide accurate information and operate smoothly (Waruwu et al., 2025). System quality play's important role in enhancing educational experience of students enabling seamless interaction, effective communication and timely access to academic resources.

Academic aspects are considered basic factors that shape the overall quality of the

educational experience among students. Academic aspect is based on elements that are related to teaching methods, academic support, communication skills, faculty competence, and academic reputation. Scholars highlighted that academic aspects are important antecedents of student satisfaction. Students mainly evaluate educational experiences on the basis of faculty engagement, classroom environment, and academic interactions (Wong & Chapman, 2023). Studies demonstrated positive association between academic aspects and student satisfaction showing importance given by students to the course materials, faculty and other academic factors (Ageenko et al., 2021).

Electronic word of mouth, also termed as e-WOM, is considered one of the important sources that shape the decision-making process, attitudes, and perceptions of students (Ismail, 2024). Through different online reviews, student forums, and social media platforms, students are enabled to share their experiences related to institutional services, campus life, and academic quality (Rathnayake & Lakchan, 2023). Positive e-WOM builds credibility and enhances the university image, influencing student enrollment in the future, whereas negative e-WOM has a negative effect on student trust. e-WOM is used by students for peer support and information exchange. As a result, e-WOM is important to develop a long-term relationship between students and the educational institution (Wahab et al., 2023). The main aim of research is to examine the effect of teacher quality, system quality and academic aspects on student satisfaction and student loyalty. Present study also examined mediating effect of student satisfaction and moderating effect of e-WOM.

## **2. Literature Review**

### *2.1. Student Satisfaction (SS) and Student Loyalty (SL)*

Literature discussed that SS is one of important factor in context of higher education that impacts the student's loyalty. Studies have referred students' satisfaction as level to which expectations of students regarding facilities, services, and academic quality are fulfilled by the education institution (Reference). When it is perceived by the students that value is delivered through their education system their attitude becomes positive towards educational institute. As a result their psychological and emotional attachment towards institute get strengthen (Snijders et al., 2019). On the other hand, SL is referred as intention of students to continue their studies from the same institute, maintain long term relationship with institute in the form of alumni and recommend the institute to others (Yusof et al., 2019). Past studies suggested that satisfied students will show positive behavior towards the education institute, they will be involved in advocacy of institute and re-enrolment as well (Latif et al., 2021).

Past studies in context of higher education shows that satisfaction plays the role of key factor that leads to SL. When students are satisfied with their teachers and academic support being provided by the academic institute, campus environment, administrative support, and curriculum relevance, such students are less likely to get transferred to other institutes and will be more inclined to continue their studies in the same institute (Chen et al., 2023). Furthermore, perceived value towards education among students is enhanced that later reinforces the intention of students to recommend the educational institute to the prospective students and peers. On the other hand, some of the institutes have shifted their educational system to the digital mode after Covid-19 that also become factor that shapes SS. Scholars examined and reported direct effect of SS on SL. The results of

study reinforced logic based on expectancy disconfirmations that exceeds or meet the expectations in online mode meeting satisfaction and rising level of loyalty (Dangaiso et al., 2022).

Scholars also showed that perceived quality in terms of physical facilities, administrative facilities and academic activities plays very important role in shaping student image towards the education institute. Another factor shaping student attitude is switching costs and image of higher educational institutions that later impacts the SL through SS (Moslehpour et al., 2020). The factor of SS is affected through image and quality that is later translated into behavioral and attitudinal loyalty (Qomariah et al., 2020). Scholars also revealed that loyalty of students towards the educational institute is shaped through switching cost indirectly through SS. Thus, the focus of universities should be towards enhancement of SS by effective student services, supportive learning environments and quality teaching. Overall, scholars in past studies demonstrated that improvement in digital learning experiences, administrative responsiveness and quality of teaching plays key role to make student satisfied that later shapes SL towards institute (Mulyono et al., 2020). In other words, SS has positive effect on SL (Dangaiso et al., 2022). Thus, we assumed that H1: *SS has a positive impact on SL.*

## 2.2. Teacher Quality and Student Satisfaction

Studies have referred to teacher quality as level to which educational institutes effectively apply and possess positive attitudes, professional skills and pedagogical knowledge for the facilitation of learning experiences (Villocino & Villocino, 2025). In context of higher education, teaching quality is very important to determine high quality education. Some of the studies have referred to it as important source of SS. In the context of digital and online learning context that performance of teachers is mainly dependent on implementation of ICT competencies and integration of ICT competencies with skills of faculty members. Ability of teachers to apply and design effective strategies towards face-to-face and non-face to face classes shows their professional quality influencing learning outcomes and student engagement (Zahid & Nawab, 2025).

In context of virtual learning environments, teacher quality is mainly linked to instructional strategies, technological knowledge, practical skills and digital competence that promote active participation of students. Furthermore, effective evaluation and assessment strategies in terms of online teaching is translated as strategic resource for training and learning management. It plays very important role in shaping SS and ensuring effectiveness of learning. Studies mentioned that these competencies emerged from attitude of teacher, skills of teacher and knowledge of teacher that mostly emerged from professional practice to handle the class (Elmouhib et al., 2024).

Teacher quality is the main driver of academic success and satisfaction of students towards studies showing strong relationship between competency of teacher and contentment of learner. High quality teaching is characterized by supportive behavior, effective methods to engage learners, effective pedagogical methods and deep knowledge of subject that directly enhances student motivation and satisfaction. The alteration in sociological landscape has reshaped teacher training and university organization developing new challenges for higher education institutions. This transition generates the importance of quality of teacher in context of university (Jiménez-Bucarey et al., 2021). Therefore, teacher quality is perceived as reflective and continuous practice of education developed through

sustained interaction between students and teachers (Wang, 2022). In terms of social and educational practice, high quality teaching equips students for societal and professional role while improving educational experiences and overall satisfaction (Jiménez-Bucarey et al., 2021). In other words, studies in literature revealed positive influence of teacher quality on SS. So, it is hypothesized that:

H2: *Teacher quality has a significant impact on SS.*

### *2.3. System Quality and Student Satisfaction*

Literature has defined system quality as the performance and functionality of system including different attributes such as overall technical efficiency, reliability, response time, system stability, ease of navigation and ease of use (Alksasbeh et al., 2019). From the perspective of information system, system quality basically reflects design and technical characteristics of system by keeping focus on software and hardware to retrieve, store, process and capture information. Past scholars identified system quality as important determinants of user-friendly interfaces, immediate response time, and absence of system errors as key factors of system success in the form of important indicators of efficient system performance (Achmadi & Siregar, 2021).

Inline with successful models of information systems, attributes of system including technical reliability, convenience and friendliness have reflected significant influence on satisfaction of students. Similarly, Technology acceptance model (TAM) suggests that system that is perceived as system that is perceived as efficient and easy to use generates satisfaction among students (Sholikah & Sutirman, 2020). The system quality factors are applied widely applied in different information systems including learning management systems, social networking, enterprise resource planning systems, knowledge management systems, and decision support systems (Ramírez-Correa et al., 2018). High system quality improves satisfaction by encouraging continuous usage and sustained engagement by offering efficient performance and seamless interaction (Qi & Wang, 2026).

In context of blended learning, system quality is important due to more reliance on LMS for interaction and delivery of lectures. High quality of LMS ensures smooth performance, availability, reliability and effectiveness that enables students to access learning material without disruption (Zhang & Ng, 2025). According to scholars, system quality has direct effect on perception of users in terms of learning effectiveness by allowing students to maintain focus on academic tasks and reducing technical barriers (Jiménez-Bucarey et al., 2021). In different courses where face to face and online components co-exists, a responsive and efficient system is needed to enhance learning and engagement o continuous basis. Studies empirically supported the relationship between system quality and SS. The results by Mohd Nasir et al. (2021) revealed that students who have positive perception regarding reliability of LMS has significant effect on satisfaction of students. Overall, these results revealed that strong system quality has positive effect on SS by fostering ease of use, supporting effective learning experience and minimizing technical frustration (Alksasbeh et al., 2019).

H3: *System quality has a significant impact on SS.*

### *2.4. Academic Aspects and Student Satisfaction*

Studies have represented academic aspects as basic dimension that shapes student educational perception and experience of quality. Overall, academic aspects are referred

to as different elements that are directly linked to learning and teaching process, including academic reputation of institution, workload, academic support, communication skills, teaching method and knowledge of teacher (Elatawneh et al., 2022). Past studies have discussed the way SS is affected by academic aspects. Scholars identified academic aspect as key antecedent to shape SS in higher education alongside institutional reputation, access, program structure, and non-academic services (Leonnard, 2023). Scholars focused on SS from their academic life highlighting academic reputation, workload, classroom environment, teaching methods and faculty as important factors to develop SS (Surya Bahadur et al., 2024). The results stressed that students can evaluate their experience of education on the basis of academic interactions.

Empirical studies further ensues that academic aspects have significant and positive relationship with SS. Studies like Arrivabene et al. (2019) and Iswara and Pratomo (2018) supported consistently that improved academic aspects develop SS. Specifically, ability of lecturer to explain different concepts, teaching experience, and course materials often have clear effect on developing satisfaction among students. Additionally, students give value to lecturers who shows genuine concerns regarding the academic progress of students, provide academic help to students, handle academic difficulties of students personally, provide timely response and have effective communication skills (Mulyono et al., 2020).

Furthermore, scholars emphasized that teaching quality is important predictor of SS highlighting the important role of teachers to shape academic engagement and lecturer performance (Lunkina et al., 2023). Furthermore, studies suggests that different academic aspects specifically lecturer empathy, communication, responsiveness, and competence plays an important role in enhancing satisfaction of students. As a result, strengthening academic strength to students is important for educational institutions to improve experience of students. Thus, the study by Qureshi et al. (2021) mentioned positive influence of academic aspect on SS. So, it is hypothesized that

H4: Academic Aspects *has a significant impact on SS.*

## 2.5. Student Satisfaction as Mediator

Past studies revealed that SS acts as important mediating role between teacher quality and SL. High level of teacher quality is reflected through supportive interactions, responsiveness, effective teaching methods, and subjective expertise that positively shapes overall learning experience of students (Zhang et al., 2025). Teachers who show genuine concern, fairness and clarity for students play important role in motivating and engaging students in academic environment (Okwedadi, 2025). When students assume teaching as student centered, consistent and effective, their level of satisfaction towards educational institute increases.

As a result of this heightened performance, trust, emotional attachment and positive attitude of students is enhanced that leads towards SL. Therefore, it is more likely that satisfied students will continue their studies, recommend the educational institutions to others and show commitment. Therefore, teacher quality enhances SL basically through SS (Salimaco Jr, 2023). The study by Alshammari and Babu (2025) also discussed mediating effect of SS in their study. So, we hypothesized that

H5: *SS as mediator between teacher quality and SL.*

SS plays the role of important mediating role between a number of variables. Systems

that are of high quality is characterized by technical stability, accessibility, fast response time, ease of use and reliability that has potential to enhance learning experience of students. Moreover, it is also important to minimize operational difficulties (Alhasan et al., 2025). Systems that provide smooth and continuous performance help students to focus on learning activities and ignore different technical issues. When students are perceived as user friendly and dependent, their level of satisfaction towards institute is enhanced.

As a result of this satisfaction confidence, trust and perception towards education institutions is fostered that subsequently strengthen behavioral intentions and emotional attachments (Hwang & Choi, 2019). Therefore, satisfied students prefer to recommend institutions to others, show commitment to their studies from same institution. Thus, system quality enhances loyalty among students indirectly through SS. The study by Berbegal-Mirabent et al. (2018) discussed mediating effect of SS in their study. So, it is assumed that.

*H6: SS as mediator between system quality and SL.*

Past studies mentioned potential mediating effect of SS (Moslehpour et al., 2020). Different academic aspects include learning support services, academic advising, assessment fairness, teaching effectiveness, and curriculum relevance has significant impact to shape perception of students regarding educational quality. Curricula that is well structured and aligned with the needs of industry, transparent system of evaluation and accessible guidance regarding academic plays very important role to shape student perception about learning (Ali, 2018).

When mentioned academic elements mentioned exceed or meet the expectations of students, they enhance satisfaction of students by achieving institutional performance and academic delivery. In case of heightened satisfaction among students, trust, emotional attachment and positive attitude among students is enhanced (Wang, 2023). Therefore, satisfied students will remain engaged with institutions in form of enrollment, show long term organizational commitment, and will spread positive word of mouth among others (Rehman et al., 2022). So, academic aspects impact SL by improving SS.

*H7: SS as mediator between academic aspects and SL.*

## **2.6. e-WOM as Moderator**

Electronic word of mouth (e-WOM) communication is a kind of communication among individuals and takes place online regarding recommendations, opinions and experiences related to institution, service and product (Wahab et al., 2023). In the context of education, e-WOM takes place in the form of reviews regarding academic experience at institution, discussions on different social media and alumni testimonials (Ramadhan et al., 2022). E-WOM includes different kinds of information including praises, complaints, recommendations and reviews. E-WOM is considered powerful tool of marketing for educational institutions as they can attract new students as well as helping the educational institutions to share educational features online. In most cases, experience of current students is shared online by the educational institutions (Hasanah et al., 2025). It is important that educational institutions remain aware of different negative risks that are associated with e-WOM. By understanding features of e-WOM and its implementation, it helps in management of strategies and attraction of new students. On the other hand, e-WOM helps in improving the image of educational institution and improve the quality of education, impacting the overall commitment of the students (Wahab et al., 2023).

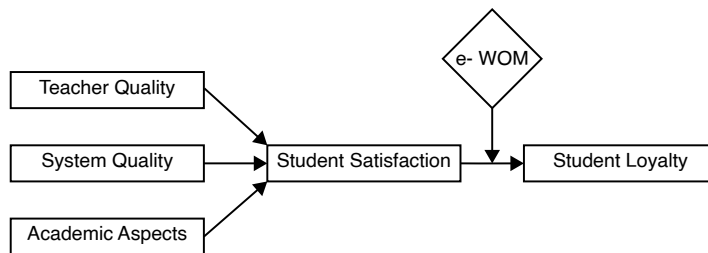
Studies revealed that loyalty of students who are satisfied is strengthened through peer recommendations, social media discussions, and online reviews by developing trust towards the educational institution. On the other hand, negative e-WOM plays key role in weakening the relationship of students with institutes even if the student is satisfied. Thus, e-WOM has the ability to diminish or enhance the effect of SS on loyalty, making it important moderating variable. Study by Liao et al. (2022) explored the moderating role of e-WOM.

So, it is hypothesized that

H8: *e-WOM act as moderator between SS and SL.*

On the basis of above literature, we developed framework as mentioned in figure 1. It shows teacher, quality, system quality and academic aspects as antecedents of SS and SL. Framework also demonstrates moderating effect of e-WOM.

**Figure 1: Framework.**



### 3. Methodology

Present research adopted deductive approach that lead towards quantitative method for collection of data. It is common to use quantitative deductive method because it facilitate to use numeric data and helps in analysing hypothesis. Moreover, present research explanatory in nature to explain further the empirical results. Present study has used individuals as units of analysis because it helps the scholars to target the individuals on the basis of their knowledge to draw conclusions. For the examination of loyalty among students, this research gathered data from students of different universities.

According to scholars, complexity of proposed model determines the sample size of the research. There should be higher level of predictors will lead to a greater number of sample size. Keeping in view this criteria, present study has three predicting variables, one mediator, and one moderator. Therefore, sample size of present study was 300. Simple random sampling technique was used for data collection. Usable response rate was 59.68%.

Studies has mentioned different measurement instruments for collection of data. This study used questionnaire instrument for this purpose as it helps to collect numeric data. Questionnaire instrument is based on questionnaire that is closed ended regarding variables mentioned in the framework. The questionnaire was developed using Likert scale format ranging from strongly agree to strongly disagree. The questionnaire of the variables was developed from the past studies. We measured e-WOM by using scale developed by Nguyen and Nguyen (2025). SL was measured using scale of Ali et al. (2016), SS was examined through scale developed by Vázquez et al. (2016), measurement scale of system

quality was adapted from the study of Ramírez-Correa et al. (2018), and questionnaire of academic aspects was developed from Ali et al. (2016) and the scale of teacher quality was adapted by Jiménez-Bucarey et al. (2021). The collected data was analyzed using SEM technique and PLS was used as tool for SEM technique. PLS SEM is used to assess validity and reliability of the data. Moreover, it also facilitates in hypothesis testing. Therefore, PLS SEM is used in the study to get more significant results. Analysis through PLS is divided in two sections namely measurement and structural model. Before moving towards measurement and structural model, data screening was conducted. Moreover, Measurement model was assessed using PLS Algorithm to measure discriminant validity, convergent validity and outer loading. Moreover, bootstrapping was used at the stage of structural model to test direct, mediation and moderation results.

#### 4. Results and Analysis

The analysis of the study began with demographic analysis. In terms of age, 47% of the respondents had the age less than 25 years, 41.27% of the respondents had the age between 25 to 35 years, whereas rest of the respondents had the age more than 35 years. In terms of gender, 38.67% of participants were females and remaining were male. From the perspective of marital status, 64.21% of students were not married and 35.79% respondents were married. Keeping in view the approach mentioned by Hair et al. (2019), we conducted analysis using two steps. In 1<sup>st</sup> step, analysis began with factor loading for which benchmark is 0.70 (Hair Jr et al., 2017). The values in Table 1 demonstrate that all values are more than 0.70.

**Table 1: Loading.**

	AA	SL	SQ	SS	TQ	e-WOM	e-WOM x SS
AA1	0.989						
AA2	0.834						
AA3	0.845						
AA4	0.835						
AA5	0.859						
SL1		0.876					
SL2		0.850					
SL3		0.894					
SQ1			0.864				
SQ2			0.846				
SQ3			0.841				
SQ4			0.850				
SS1				0.838			
SS2				0.846			
SS3				0.845			
SS4				0.850			
SS5				0.757			
TQ1					0.849		
TQ2					0.834		
TQ3					0.780		
e-WOM1						0.896	
e-WOM2						0.889	
e-WOM3						0.884	
e-WOM4						0.708	

Moreover, AVE was analysed using criteria mentioned by Hair Jr et al. (2014). As per the criteria, all values are more than 0.50 (as per Table 2). To further confirm convergent validity, analysis of composite reliability was examined for which values must exceed 0.70 (as per Table 2). Furthermore, values of  $\alpha$  also exceed 0.70 (as per Table 2), meeting benchmark proposed by Hair et al. (2011). As all values of CR,  $\alpha$ , AVE and loading are higher than threshold level, therefore, convergent validity is established.

**Table 2: Reliability.**

	$\alpha$	Rho_c	AVE
AA	0.922	0.942	0.765
SL	0.845	0.906	0.763
SQ	0.872	0.912	0.723
SS	0.885	0.916	0.685
TQ	0.759	0.862	0.675
e-WOM	0.864	0.909	0.715

Furthermore, Fornell and Larcker criterion (FLC) was used as suggested by Fornell and Larcker (1981) to test discriminant validity. Table 3 shows results of discriminant validity as per proposed criteria showing values of AVE of each variable is higher than remaining values.

**Table 3: FLC.**

	AA	SL	SQ	SS	TQ	e-WOM
AA	0.874					
SL	0.686	0.874				
SQ	0.559	0.715	0.850			
SS	0.667	0.742	0.667	0.828		
TQ	0.571	0.619	0.579	0.564	0.822	
e-WOM	0.573	0.661	0.636	0.630	0.537	0.846

The values of R square were also examined showing the effect of proposed predicting variables dependent and mediating variables. Results demonstrated that SS and SL are affected 58% and 63.9% by proposed predicting variables (as per Table 4). Structural model analysis was carried out through bootstrapping procedure. The significance of direct, moderating and mediating hypothesis was judged on the basis of t value and relationship type was assessed through beta value. Table 5 shows the results of direct and moderating hypothesis.

**Table 4: R square.**

	R-square
SL	0.639
SS	0.580

**Table 5: Moderating and Direct Results.**

	B	SD	T	P	Significant
AA -> SS	0.383	0.058	6.623	0.000	Yes
e-WOM x SS -> SL	0.149	0.031	4.791	0.000	Yes
SQ -> SS	0.381	0.060	6.310	0.000	Yes
SS -> SL	0.566	0.047	11.959	0.000	Yes
TQ -> SS	0.125	0.059	2.117	0.017	Yes

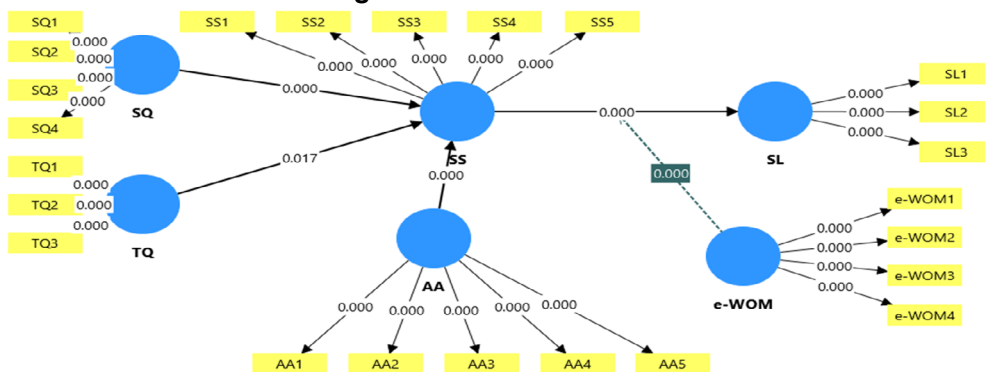
Results in Table 5 and Figure 2 demonstrate that AA has positive influence on SS (t=6.623), accepting hypothesis, SQ has positive effect on SS (t=6.310), supporting hypothesis, SS has positive influence on SL (t=11.959), supporting hypothesis, and TQ has positive influence on SS (t=2.117), accepting hypothesis. The moderating hypothesis is also accepted showing significant moderating role e-WOM on the path of SS and SL (t=4.791).

**Table 6: Mediation Findings.**

	B	SD	T	P	Significant
TQ -> SS -> SL	0.071	0.034	2.077	0.019	Yes
AA -> SS -> SL	0.217	0.037	5.876	0.000	Yes
SQ -> SS -> SL	0.216	0.041	5.298	0.000	Yes

Table 6 shows the mediating results, demonstrating mediation of SS between TQ and SL, (t=2.077), between AA and SL (t=5.876), and between SQ and SL (t=5.298). Thus, all mediating hypotheses are supported.

**Figure 2: Structural Model.**



## 5. Discussion

Student loyalty and retention in universities is mainly dependent on the quality of education. It is important for universities to look for factors that can develop satisfaction and loyalty among students. Therefore, this research examined the effect of teacher quality, system quality and academic aspect on student satisfaction and student loyalty. This research also explored the moderating effect of e-WOM. The results of this research demonstrate that student satisfaction has positive effect on student loyalty. These results highlighted the central role of student satisfaction for the success of student and educational institutions. In case of higher level of student satisfaction, students will develop long term commitment, emotional attachment and trust towards the educational institute that will strengthen student loyalty. Student satisfaction reflects overall evaluation of student of service quality, institutional support and academic experiences. As a result of this favourable perception, students are encouraged for positive behavioral intention and continuous enrolment. Students also recommend educational institutes to others in case of consistent student satisfaction. Therefore, behavioral and attitudinal factors of student loyalty are reinforced. Furthermore, students' intention to switch is also reduced because of student satisfaction which further reinforces student loyalty. The results

show that regularly monitor and enhancing student satisfaction can achieve sustainable student loyalty in present competitive educational environment. By focusing on practices and policies that improve student satisfaction, universities can develop student loyalty that contributes to long term success of university. This result is similar to the findings of Dangaiso et al. (2022).

The results also support that teacher quality has positive influence on student satisfaction (Jiménez-Bucarey et al., 2021). The findings emphasized the important role of teachers to shape academic experience of students. Teacher quality is reflected through effective communication, clarity of explanation, teaching competence and subject knowledge that directly impacts student satisfaction positively. In case of consistent high level of teacher quality, students will feel more confident in terms of their learning outcomes, which will strengthen student satisfaction. Furthermore, teacher quality plays key role in meaningful academic interaction, timely feedback and assessment practices, all of these enhance student satisfaction. The results indicate that higher level of teacher quality led to higher level of student satisfaction, as student image greater value for the educational experience. Therefore, teacher quality is important strategic factor that aims to enhance student satisfaction. Universities can improve and sustain student satisfaction by continuous evaluation and professional development of teacher quality.

The findings also revealed that system quality has positive influence on student satisfaction as demonstrated by Alksasbeh et al. (2019). These results underscore the importance of reliable and efficient institutional systems in higher education. System quality shows the technical reliability, ease of use, accessibility and effectiveness of administrative and academic platforms that support learning activities of students. In case of high system quality, students experience fewer disruptions in communication channels, online assessments, learning management systems and course registration, that directly enhances student satisfaction. Students are enabled to have timely access to support services, learning resources, and academic information, that allows students to manage their academic responsibilities in effective manner. Moreover, consistent system quality minimizes uncertainty and frustration, therefore overall perception of students in terms of professionalism and competence of institute is improved. The findings also suggest that system quality is very important factor for educational institutions, therefore they should invest on regular basis to improve system quality to strengthen student satisfaction.

Findings also demonstrated that academic aspects have significant effect on student satisfaction as revealed by Qureshi et al. (2021). Findings indicate that academic elements are key student evaluation regarding educational quality. Academic aspects include assessment transparency, learning outcomes, course structure and curriculum relevance, shape the way students perceive the value of their academic journey. It is important to mention that when academic aspects are aligned with career goals and expectations of students, students develop a sense of achievement and purpose, that later enhances student satisfaction. Additionally, academic aspects play key role to encourage active participation and promote intellectual engagement in process of learning, that leads to higher student satisfaction. The effectiveness of academic aspects lies in programs and courses because predictable academic standards develop confidence among students. The results also imply that refinement and continuous review of academic aspects are important to improve student satisfaction. Universities can sustain positive perception among students by giving priority to strong academic aspects.

The results also support the mediating effect of student satisfaction between teacher quality and student loyalty. High level of teacher quality is reflected through supportive behavior, communication skills, pedagogical competence and subject knowledge of teacher that will positively influence academic experience of students. When students assume teachers as engaging and competent, their level of satisfaction with university increases. In turn, this enhanced satisfaction strengthens commitment and emotional attachment to the higher education institute that later leads to higher level of student loyalty. Therefore, teacher quality does not create student loyalty, in fact it develops student loyalty through student satisfaction, showing important role of student satisfaction.

Study findings support the mediating role of student satisfaction between system quality and student loyalty. System quality expresses responsiveness, accessibility, usability, and reliability of administrative and academic systems shaping daily interaction of students with university. When these systems function consistently and efficiently with purpose to meet expectations of students, they develop supportive and smooth learning environment. As a result of such positive experience, student satisfaction is enhanced that subsequently encourages long term loyalty of students. Thus, system quality develops student loyalty mainly by enhancing student satisfaction.

Results confirm the mediating effect of student satisfaction among academic aspects and student loyalty. These findings assure that student satisfaction is one of important bridges between academic aspects and student loyalty. Academic aspects in the form of academic support services, assessment practices, teaching effectiveness, and curriculum structure shape the perception and learning experience of students. When these academic elements are aligned with academic needs and students' expectations, they generate student satisfaction. Subsequently, this satisfaction is translated into advocacy behavior, willingness to continue studies and stronger institutional attachment. Therefore, academic aspect generates student loyalty indirectly through student satisfaction. These mediating results are aligned to the findings of Alshammari and Babu (2025).

Findings of present study also confirms the positive moderating role of e-WOM on the path of student satisfaction and student loyalty as discussed by Liao et al. (2022). Positive e-WOM provides strength to the relationship of student satisfaction and student loyalty by reinforcing positive perception through peer recommendations, social media interactions and online reviews. When students are exposed to credible and supportive e-WOM, their service and academic experiences are positively interpreted by students, developing student satisfaction. Furthermore, continuous exposure of e-WOM plays important role to minimize uncertainty about quality of university and validate their choice. Thus, e-WOM not only shows satisfaction of students, but also provides strength to it. Results emphasize that e-WOM is important factor to strengthening relationship between students' satisfaction and student loyalty.

### *5.1. Limitations and Recommendations*

This section highlights few limitations and recommendations in terms of these limitations. This study discusses student loyalty as composite variable. Whereas some of the studies have discussed loyalty from the perspective of attitudinal and behavioral loyalty. Therefore, it is recommended that future studies may discuss student loyalty from these perspectives. Moreover, student satisfaction is discussed as mediating variable. It is proposed to assess it as moderate variable on the path of independent variable and mediating variable. Furthermore, teacher quality is highlighted in this study

as independent variable. It will be interesting to evaluate the role of teaching quality which is more wholistic concept.

Additionally, present study explored moderating role of e-WOM that shows the recommendations through digital means. It is recommended that studies may use WOM as simple concept to evaluate recommendations through regular methods. Moreover, this study used Smart PLS 4 for the analysis of data. Studies in future may use AMOS as the tool for analysis of collected data. In the end, student loyalty of university students was examined in this study. Future studies may assess loyalty of primary students in future.

### 5.2. Theoretical and Managerial Contribution

Present study adds to the body of knowledge from the managerial and theoretical perspective. In terms of theoretical contribution, present study highlights the importance of e-WOM to strengthen student satisfaction and loyalty. Study also adds to the body of knowledge by evaluating teacher quality as important antecedent of student satisfaction. Study also bridges the gap of limited studies shedding light on the role of system quality to develop satisfaction among students. In terms of managerial contribution, present research shows the importance of quality of teachers in terms of their skills and knowledge to enhance student satisfaction. Furthermore, IT based systems also play key role to keep students engaged and loyal to universities.

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## References

- Achmadi, A., & Siregar, A. O. (2021). The Effect of System Quality, Information Quality and Service Quality on User Satisfaction of E-Learning System. *The International Journal of Business Review (The Jobs Review)*, 4(2), 103-120. <https://doi.org/10.17509/tjr.v4i2.40483>
- Ageenko, N. V., Menshenina, S. G., Dobrova, V. V., & Labzina, P. G. (2021). Practical Aspects of Academic Literacy Development in Higher Education Institutions. *Higher Education in Russia*, 30(7), 117-127. <https://doi.org/10.31992/0869-3617-2021-30-7-117-127>
- Alenezi, M. (2023). Digital Learning and Digital Institution in Higher Education. *Education Sciences*, 13(1), 88. <https://doi.org/10.3390/educsci13010088>
- Alhasan, N. A., Lombardi, M., & Al-Ajmi, N. S. (2025). Smart Accessibility and Quality of Life in Education: A Systematic Review of Adolescent Support and Universal Access. *Cureus*, 17(2), e79494. <https://doi.org/10.7759/cureus.79494>
- 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/qae-02-2014-0008>

- Ali, L. (2018). The Design of Curriculum, Assessment and Evaluation in Higher Education with Constructive Alignment. *Journal of Education and e-learning Research*, 5(1), 72-78. <https://doi.org/10.20448/journal.509.2018.51.72.78>
- Alksasbeh, M., Abuhelaleh, M., Almaiah, M. A., Mohamed, A.-J., & Karaka, A. A. (2019). Towards a Model of Quality Features for Mobile Social Networks Apps in Learning Environments: An Extended Information System Success Model. *IJIM*, 13(5), 75-93. <https://doi.org/10.3991/ijim.v13i05.9791>
- Almusfar, L. A. (2025). Improving Learning Management System Performance: A Comprehensive Approach to Engagement, Trust, and Adaptive Learning. *IEEE Access*, 13, 46408-46425. <https://doi.org/10.1109/ACCESS.2025.3550288>
- Alshammari, S. H., & Babu, E. (2025). The mediating role of satisfaction in the relationship between perceived usefulness, perceived ease of use and students' behavioural intention to use ChatGPT. *Scientific Reports*, 15(1), 7169. <https://doi.org/10.1038/s41598-025-91634-4>
- Arrivabene, L. S., Vieira, P. R. d. C., & Mattoso, C. L. d. Q. (2019). Impact of Service Quality, Satisfaction and Corporate Image on Loyalty: A Study of a Publicly Traded for-Profit University. *Services Marketing Quarterly*, 40(3), 189-205. <https://doi.org/10.1080/15332969.2019.1630174>
- Berbegal-Mirabent, J., Mas-Machuca, M., & Marimon, F. (2018). Is research mediating the relationship between teaching experience and student satisfaction? *Studies in Higher Education*, 43(6), 973-988. <https://doi.org/10.1080/03075079.2016.1201808>
- Chen, C., Bian, F., & Zhu, Y. (2023). The relationship between social support and academic engagement among university students: the chain mediating effects of life satisfaction and academic motivation. *BMC Public Health*, 23(1), 2368. <https://doi.org/10.1186/s12889-023-17301-3>
- Dangaiso, P., Makudza, F., & Hogo, H. (2022). Modelling perceived e-learning service quality, student satisfaction and loyalty. A higher education perspective. *Cogent Education*, 9(1), 2145805. <https://doi.org/10.1080/2331186X.2022.2145805>
- Elatawneh, H. A. A., Sidek, S., & Mosali, N. A. (2022). Factors Affecting Academics Professional Development of Higher Education Institutions. *International Journal of Sustainable Construction Engineering and Technology*, 13(4), 350-361. <https://penerbit.uthm.edu.my/ojs/index.php/IJSCET/article/view/12796>
- Elmouhib, S., Goumrhare, R., Moussa, A., Benraiss, B., & Benraiss, A. (2024). Educational Quality vs. Stress Impact: Assessing Student Well-Being in Moroccan Higher Education. *Social Sciences*, 13(12), 642. <https://doi.org/10.3390/socsci13120642>
- 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>
- Gbobaniyi, O., Srivastava, S., Oyetunji, A. K., Amaechi, C. V., Beddu, S. B., & Ankita, B. (2023). The Mediating Effect of Perceived Institutional Support on Inclusive

- Leadership and Academic Loyalty in Higher Education. *Sustainability*, 15(17), 13195. <https://doi.org/10.3390/su151713195>
- 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>
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2-24. <https://doi.org/10.1108/ebr-11-2018-0203>
- Hair Jr, J. F., Matthews, L. M., Matthews, R. L., & Sarstedt, M. (2017). PLS-SEM or CB-SEM: Updated Guidelines on Which Method to Use. *International Journal of Multivariate Data Analysis*, 1(2), 107-123. <https://doi.org/10.1504/IJMDA.2017.087624>
- Hair Jr, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial Least Squares Structural Equation Modeling (PLS-SEM) An Emerging Tool in Business Research. *European Business Review*, 26(2), 106-121. <https://doi.org/10.1108/EBR-10-2013-0128>
- Hasanah, M. a., Rofiqi, R., Ayuba, J. O., & Rozi, F. (2025). The effect of customer experience and e-WOM on increasing the number of students. *Al-Fikru: Jurnal Pendidikan Dan Sains*, 6(1), 12-20. <https://doi.org/10.55210/al-fikru.v6i1.1993>
- 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>
- Ismail, I. J. (2024). A perceived usefulness of entrepreneurship education as a marketing model for students' choice of universities: Does the electronic word of mouth matter? *International Journal of Educational Management*, 39(3), 617-636. <https://doi.org/10.1108/ijem-03-2023-0098>
- Iswara, W., & Pratomo, L. A. (2018). The Influence of Higher Education Service Quality on Student Satisfaction and Loyalty. *Journal of Economics and Business Research*, 10(3), 174-188.
- Jiménez-Bucarey, C., Acevedo-Duque, Á., Müller-Pérez, S., Aguilar-Gallardo, L., Mora-Moscoso, M., & Vargas, E. C. (2021). Student's Satisfaction of the Quality of Online Learning in Higher Education: An Empirical Study. *Sustainability*, 13(21), 11960. <https://doi.org/10.3390/su132111960>
- 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), 27. <https://doi.org/10.1186/s13731-022-00196-6>
- Lacap, J. P. G., & Cortez, J. V. (2023). Does Reputation Lead to Student Loyalty? The Case of a Private Higher Education Institution, a State University, and a Local College. *The South East Asian Journal of Management*, 17(2), 2. <https://doi.org/10.21002/seam.v17i2.1343>

- Latif, K. F., Bunce, L., & Ahmad, M. S. (2021). How can universities improve student loyalty? The roles of university social responsibility, service quality, and “customer” satisfaction and trust. *International Journal of Educational Management*, 35(4), 815-829. <https://doi.org/10.1108/ijem-11-2020-0524>
- Leonnard, L. (2023). *Antecedents of Private University Student's Satisfaction: The Effect of Traditional and Electronic Service Quality-Jurnal ERIES*. Sekolah Tinggi Manajemen IPMI, Jakarta. <https://repository.ipmi.ac.id/id/eprint/2181>
- Liao, Y.-K., Wu, W.-Y., Le, T. Q., & Phung, T. T. T. (2022). The Integration of the Technology Acceptance Model and Value-Based Adoption Model to Study the Adoption of E-Learning: The Moderating Role of e-WOM. *Sustainability*, 14(2), 815. <https://doi.org/10.3390/su14020815>
- Lunkina, M. V., Gordeeva, T. O., Diryugina, E. G., & Pshenichnyuk, D. V. (2023). Teaching Quality as Predictor of Student Engagement, Well-being and Performance. *RUDN Journal of Psychology and Pedagogics*, 20(3), 628-649. <https://doi.org/10.22363/2313-1683-2023-20-3-628-649>
- Mohd Nasir, F. D., Hussain, M. A. M., Mohamed, H., Mohd Mokhtar, M. A., & Abdul Karim, N. (2021). Student Satisfaction in Using a Learning Management System (LMS) for Blended Learning Courses for Tertiary Education. *Asian Journal of University Education*, 17(4), 442-454. <https://doi.org/10.24191/ajue.v17i4.16225>
- Moslehpour, M., Chau, K. Y., Zheng, J., Hanjani, A. N., & Hoang, M. (2020). The mediating role of international student satisfaction in the influence of higher education service quality on institutional reputation in Taiwan. *International Journal of Engineering Business Management*, 12, 1847979020971955. <https://doi.org/10.1177/1847979020971955>
- 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>
- Muzammil, M., Sutawijaya, A., & Harsasi, M. (2020). Investigating Student Satisfaction in Online Learning: The Role of Student Interaction and Engagement in Distance Learning University. *Turkish Online Journal of Distance Education*, 21(Special Issue-IODL), 88-96. <https://doi.org/10.17718/tojde.770928>
- Nguyen, T. D., & Nguyen, N. N. T. (2025). The Role of Electronic Word-of-Mouth on Online Purchase Intention in Vietnam. *Journal of Distribution Science*, 23(9), 61-70. <https://doi.org/10.15722/jds.23.09.202509.61>
- Okwedadi, R. A. (2025). Respect and Fairness as Instructional Leaders'character Count Traits and Students' Academic Performance. *International Journal of Institutional Leadership, Policy and Management*, 7(1), 115-131. [https://www.ijilpm.com.ng/assets/vol.%2C-7\(1\)-okwedadi%2C-r.-a.pdf](https://www.ijilpm.com.ng/assets/vol.%2C-7(1)-okwedadi%2C-r.-a.pdf)

- Osman, Z., Sulaiman, T. F. T., Nadzri, N. R. M., Ismail, A., & Ali, R. (2024). Loyalty in Digital Learning: Exploring Service Quality, Satisfaction, and Trust in Open Flexible Distance Education. *International Journal of Academic Research in Business and Social Sciences*, 14(6), 329-344. <https://doi.org/10.6007/IJARBSS/v14-i6/21551>
- Qi, Y., & Wang, F. (2026). Factors Impacting Student Satisfaction with Blended Learning in English Courses: A Case Study of a Higher Vocational and Technical University in Sichuan, China. *International Journal of Sociologies and Anthropologies Science Reviews*, 6(6), 19-32. <https://doi.org/10.60027/ijrsasr.2026.7459>
- Gomariah, N., Budiastuti, A., Sanosra, A., Susbiani, A., & Budisatoto, E. (2020). Building Student Satisfaction and Loyalty Based on Service Quality and Institutional Image. *SSRG International Journal of Economics and Management Studies (SSRG-IJEMS)*, 7(9), 24-33. <https://doi.org/10.14445/23939125/IJEMS-V7I9P103>
- Qureshi, F. H., Khawaja, S., & Zia, T. (2021). Conceptualisation of Student Satisfaction In The Context Of UK Higher Education. *International Journal of Business Marketing and Management (IJBMM)*, 6(12), 60-81. <https://ijbmm.com/paper/Dec2021/8340436300.pdf>
- Ramadhan, A., Hidayanto, A. N., Evik, C. S., Rizkiandini, N., Rahimullah, N. A., Muthiah, R. H., Anggreainy, M. S., et al. (2022). Factors affecting the continuation to use and e-WOM intention of online library resources by university students: A study in Indonesia. *The Journal of Academic Librarianship*, 48(6), 102592. <https://doi.org/10.1016/j.acalib.2022.102592>
- Ramírez-Correa, P. E., Rondán-Cataluña, F. J., & Arenas-Gaitán, J. (2018). Student information system satisfaction in higher education: the role of visual aesthetics. *Kybernetes*, 47(8), 1604-1622. <https://doi.org/10.1108/k-08-2017-0297>
- Rathnayake, T. H., & Lakchan, U. G. C. (2023). The Influence of E-Word of Mouth Marketing on Students' Selection of Management Degrees. *South Asian Journal of Business Insights*, 3(2), 90-106. <https://doi.org/10.4038/sajbi.v3i2.59>
- Rehman, M. A., Woyo, E., Akahome, J. E., & Sohail, M. D. (2022). The influence of course experience, satisfaction, and loyalty on students' word-of-mouth and re-enrolment intentions. *Journal of Marketing for Higher Education*, 32(2), 259-277. <https://doi.org/10.1080/08841241.2020.1852469>
- Salimaco Jr, R. A. (2023). The Effect of Quality of Instructor Service on Student Loyalty: The Mediating Role of Student Satisfaction. *Science International*, 35(2), 69-74. <https://www.researchgate.net/publication/369180976>
- Sarwosri, S., Rochimah, S., Yuhana, U. L., & Hidayat, S. B. (2023). Software Quality Measurement for Functional Suitability, Performance Efficiency, and Reliability Characteristics Using Analytical Hierarchy Process. *JOIV: International Journal on Informatics Visualization*, 7(4), 2421-2426. <https://doi.org/10.62527/joiv.7.4.2441>
- Sholikah, M. a., & Sutirman, S. (2020). How Technology Acceptance Model (TAM) Factors of Electronic Learning Influence Education Service Quality through Students' Satisfaction. *TEM Journal*, 9(3), 1221-1226. <https://doi.org/10.18421/TEM93-50>

- Snijders, I., Wijnia, L., Rikers, R. M. J. P., & Loyens, S. M. M. (2019). Alumni loyalty drivers in higher education. *Social Psychology of Education, 22*(3), 607-627. <https://doi.org/10.1007/s11218-019-09488-4>
- Supriyanto, A., Burhanuddin, B., Sunarni, S., Rochmawati, R., Ratri, D. K., & Bhayangkara, A. N. (2024). Academic service quality, student satisfaction and loyalty: a study at higher education legal entities in Indonesia. *The TQM Journal, 37*(5), 1364-1384. <https://doi.org/10.1108/tqm-10-2023-0334>
- Surya Bahadur, G. C., Gurung, S. K., Poudel, R. L., Yadav, U. S., Bhattacharjee, A., & Dhungana, B. R. (2024). The effect of higher education service quality on satisfaction among business students in India and Nepal. *Cogent Education, 11*(1), 2393521. <https://doi.org/10.1080/2331186X.2024.2393521>
- Todea, S., Davidescu, A. A., Pop, N. A., & Stamule, T. (2022). Determinants of Student Loyalty in Higher Education: A Structural Equation Approach for the Bucharest University of Economic Studies, Romania. *International Journal of Environmental Research and Public Health, 19*(9), 5527. <https://doi.org/10.3390/ijerph19095527>
- Towers, E., Rushton, E. A. C., Gibbons, S., Steadman, S., Brock, R., Cao, Y., Finesilver, C., et al. (2025). The “problem” of teacher quality: exploring challenges and opportunities in developing teacher quality during the Covid-19 global pandemic in England. *Educational Review, 77*(1), 100-116. <https://doi.org/10.1080/00131911.2023.2184771>
- Vázquez, J. L., Aza, C. L., & Lanero, A. (2016). University social responsibility as antecedent of students' satisfaction. *International Review on Public and Nonprofit Marketing, 13*(2), 137-149. <https://doi.org/10.1007/s12208-016-0157-8>
- Villocino, H., & Villocino, R. (2025). Teaching Quality: Its Influence on Learning Experiences and Engagement of Learners. *International Journal of Interdisciplinary Viewpoints, 1*(4), 346-375. <https://doi.org/10.64612/ijiv.v1i4.24>
- Wahab, A., Aqif, T., & Bint-e-shehzad, Z. (2023). Studying the impact of e-marketing by universities on students' loyalty with the mediation of intention to get enrollment and moderation of eWOM. *Journal of Applied Research in Higher Education, 16*(5), 1486-1499. <https://doi.org/10.1108/jarhe-08-2022-0264>
- Wang, X. (2022). The Reflective Teaching Practice of Teachers Based on Optimal Teaching Quality. *International Journal of Emerging Technologies in Learning, 17*(15), 156-170. <https://doi.org/10.3991/ijet.v17i15.33757>
- Wang, X. (2023). Exploring Positive Teacher-Student Relationships: The Synergy of Teacher Mindfulness and Emotional Intelligence. *Frontiers in Psychology, 14*, 1301786. <https://doi.org/10.3389/fpsyg.2023.1301786>
- Waruwu, M., Halida, Takdir, M., Dwikurnaningsih, Y., Nuryani, L. K., Satyawati, S. T., & Irnawati, W. (2025). Development of Digital-Based Academic Services System in Higher Education. *International Research Journal of Multidisciplinary Scope (IRJMS), 6*(4), 92-103. <https://doi.org/10.47857/irjms.2024.v06i04.04750>

- Wong, W. H., & Chapman, E. (2023). Student satisfaction and interaction in higher education. *Higher Education, 85*(5), 957-978. <https://doi.org/10.1007/s10734-022-00874-0>
- Yusof, N., Zaini, B. J., & Mansor, R. (2019). A study on factors influencing student loyalty towards higher learning institution. *AIP Conference Proceedings, 2138*(1), 020006. <https://doi.org/10.1063/1.5121037>
- Zahid, A., & Nawab, A. (2025). Teaching strategies influencing learning strategies: Exploration of teaching and learning practices in a higher education context in Pakistan. *Social Sciences & Humanities Open, 11*, 101442. <https://doi.org/10.1016/j.ssaho.2025.101442>
- Zalli, M. M. M. (2021). Examining the Teachers' Pedagogical Knowledge and Learning Facilities Towards Teaching Quality. *International Journal of Evaluation and Research in Education (IJERE), 10*(1), 1-7. <https://doi.org/10.11591/ijere.v10i1.20780>
- Zhang, L., & Ng, S. F. (2025). The Impact of Learning Management System Quality on Student' Performance: The Mediating Role of Actual Usage. *International Journal of Education, Psychology and Counselling (IJEPC), 10*(59), 1094-1108. <https://doi.org/10.35631/IJEPC.1059080>
- Zhang, X., Admiraal, W., Saab, N., & Liu, Y. (2025). Exploring Teaching Quality: The Role of School Working Conditions, Principal Leadership, and Teacher Characteristics. *Educational Psychology, 45*(3), 292-313. <https://doi.org/10.1080/01443410.2025.2466663>