Factors Affecting Student Satisfaction and Loyalty in Selected Universities in Phnom Penh: A Structured Literature Review

Chanbolin Heng[1]*, Dr. Ratha Sor[2], Dr. Sokun Prum[3]
[1]hengchanbolin@gmail.com, [2]rathasor.csuk@gmail.com, [3]sokun.pr@gmail.com
[1,3]Royal University of Law and Economics, [2]National University of CheaSim Kamchaymear

*Corresponding Author: Chanbolin Heng
Email: hengchanbolin@gmail.com

ABSTRACT

Even the importance of student satisfaction and loyalty for higher institutions has increasingly been acknowledged, there is a lack of academic study on the building of the conceptual model. This study focused to investigate the factors influencing the student satisfaction and loyalty in selected universities in Phnom Penh, Cambodia. The conceptual model was developed by theoretical framework as the stimulus-organism-response (SOR), service quality and along with four theoretical frameworks. The study highlighted the determinants of student satisfaction, consisting of teacher quality, college administrative, campus life and social integration, infrastructure facilities and institution reputation, while student satisfaction itself plays as mediator. With synthetization of foregoing empirical papers, the findings exhibited that the proposed factors have a significant influence on student satisfaction. Besides, the student satisfaction significantly mediates between these antecedences and student loyalty. These pave the way for further research employing particular advanced statistical techniques to produce better results.

Keywords: *Higher Education, Service Quality, Stimulus-Organism-Response, Student Satisfaction, Student Loyalty*

INTRODUCTION

Acknowledging the importance of higher education, nations concentrate on raising the standard of their higher education. Due to the production of experts who work in every other area, higher education is essential to the country development. Improving professional development gives lecturers the tools they need to advance in their careers and guarantees that they are skilled and knowledgeable in their field. Even with the advancements, MoEYS thinks there is still room for improvement in the higher education industry (MoEYS, 2022).

Moreover, the higher education management is another significant challenge that hinders the growth of higher education in Cambodia. At the moment, 14 ministries and two governmental institutions oversee 130 tertiary education institutions in Cambodia (MoEYS, 2022). All things considered, Cambodian higher education has many obstacles that hinder its ability to advance more quickly. Many problems and obstacles still exist despite the Cambodian government's efforts to increase the amount and caliber of teaching and research in tertiary education, aided by development partners like the World Bank, Sida, and Asia Foundation (Heng & Sol, 2021; Sol, 2021). In addition, a study by Phan and Chanthoun (2025) reported that even though financial management is seen favorably, continuous oversight is necessary to provide sufficient funding for all academic quality processes, including staff development.

In Cambodia, the universities faced several challenges to satisfy students. The poor quality of tertiary education in Cambodia is caused by a number of problems, including professors' inadequate pedagogical training and qualifications, poorly planned and prepared classes, and a shortage of funding (Hayden, 2019; Kitamura, 2016). However, it is believed that the qualifications of academic instructors have a major impact on the quality of higher education, and another factor contributing to the poor quality of tertiary education in Cambodia is the lack of appropriate training and education for academic professors (Hayden, 2019).

In addition, the administrative services offered by the college administration included staff availability during business hours, prompt, undisrupted service, their demeanor and conduct toward service recipients, the efficiency of their record-keeping, and the caliber of the college security service (Kaur & Bhalla, 2018). It was another challenge which hinders the student satisfaction on continuing education intention in a leading private university in Kampong Cham province (Hok et al., 2021). Moreover, the research also found that the procedures and strategies used to aid students with college flexibility in paying their tuition and fees, also the various scholarships offered to them, included financial support and tuition did insignificantly influence on student intention.

Besides, Long et al. (2021) investigated the antecedents of tertiary education on student satisfaction The findings indicated four concerns that universities need to focus on are teaching techniques, infrastructure facilities, learning materials

related to the physical characteristics, and academic atmosphere which have not yet been able to fulfill the needs of students, according to the findings of the student survey among two selected universities in Phnom Penh and one branch in Kampong Cham province, Cambodia. Heng and Prum (2025) indicated that physical evidence and people like administrative staff, education staff and management were positively influenced on student selection, but not very significant in a public university in Phnom Penh, Cambodia.

Moreover, the analysis indicated that the challenge of Cambodian higher education, such as tertiary institutions, would assure critical thinking of all program creation, analytical, and leadership skills, in accordance with the Policy-On-Higher-Education-2030 in Cambodia. One of the issues facing Cambodian tertiary institutions was also student loyalty. Some students came to pursue master's degrees and even doctorates after graduating from college because of a few things including the standard of instruction, learning, facilities, and university image requirements from the programs, and other aspects of the tertiary education system in Cambodia (MoEYS, 2021).

From a holistic perspective, this study dealt with the development of a conceptual framework for determinants for student satisfaction in selected universities in Phnom Penh, Cambodia. The main objectives are to (1) determine the impact of teaching quality, college administration, campus life and social integration, infrastructure facilities and institution reputation on student satisfaction, and (2) examine the effect of student satisfaction on student loyalty.

LITERATURE REVIEW

Service Quality in the Higher Education

Parasuraman et al. (1985) identified ten dimensions of service quality, and refined to five dimensions; consisting of tangible, reliability, responsiveness, assurance , and empathy in 1988. Service quality is defined by Ramya et al. (2019) as an organization's ability to provide services that optimize productivity and client happiness. According to Danish et al. (2018), service quality is a function of comparison that establishes a connection between the caliber of services provided and the client's expectations. In a similar vein, Saleh et al. (2021) described service quality as the difference between a client perception and expectations of a service provider. Kotler and Keller (2016) defined service quality as the comprehensive and standard expression of a product's or service's proven capacity to meet the expressed and implicit preferences of the client.

Similarly, service quality is described by Wilson et al. (2020) as an assessment emphasis that takes into account the opinions of the client regarding the particular aspects of the service rendered. Numerous aspects, such as the caliber of the supplied services and product, economic considerations, situational and individual circumstances, and product quality, impact certain views of service

dimensions. When Philip Kotler and Gary Armstrong discuss service quality, they are talking about customer retention. In other words, they believe that the best measure of service excellence is consistent customer use. Additionally, there is an increasing emphasis on the educational quality services in accordance with the educational responsibilities (Annamdevula & Bellamkonda, 2016).

As noted by Ardi et al. (2020), the provision of high-quality educational services is a given in the epoch of globalization. An outstanding company is one that maintains relationships with its clients and places a high priority on quality. An institution can grow when its services satisfy the needs of its clients. Madrasas are often seen as inferior Islamic educational institutions in compared to other educational institutions, notably public schools, even if some of them are more advanced than ordinary schools. In order to draw in and retain new students, educational institutions need to have satisfied and loyal customers. According to Mulyono et al. (2020), student happiness is directly impacted by the provided services quality.

The Stimulus-Organism-Response (SOR)

The Stimulus-Organism-Response paradigm is used in environmental psychology and has been incorporated into a number of academic fields, including education. It describes how various environmental elements function as stimuli which affect a person's internal state and cause behavioral reactions (Mehrabian & Russell, 1974). This model demonstrated how environmental cues from outside sources support a person's inner state (Zhai et al., 2023). Numerous academics have developed conceptual frameworks in various disciplines of study adopting the SOR model. According to these authors, the development of intricate models that clarify how affective and cognitive layers can mediate the relationships between stimuli and behavioral responses is made possible by this three-part paradigm.

Leung and Wen (2021), for example, contended that the SOR theory explains the connections among environmental stimuli, people's action (response), and cognitive and emotional states (organism). According to these authors, social or physical cues have an effect on people's emotional and cognitive states, which in turn influences how they behave in the future. Marketing scholars use the SOR theory to comprehend how environmental components might operate as stimuli that impact customers' cognitive and affective processes (organisms), resulting in behavioral reactions, according to a study by Laato et al. (2020). According to van Zeeland and Henseler (2018), the SOR theory is perhaps one of the most popular theoretical frameworks in the field of consumer behavior.

The conceptual foundation of student loyalty in tertiary education was explained by Wong et al. (2023) applying the SOR model. For the purpose of explaining student academic self-concept, Rohan et al. (2022) created a research model based on the SOR model. This model is composed of four distinct interaction kinds and the caliber of online learning platforms. The association between

university image, quality, and student intention to enroll in a higher institution has been examined in earlier studies, according to Rocky et al. (2021). The SOR was employed by Pan et al. (2024): learning results as response, student perceptions as organism, and online learning interactions as stimulus. The purpose of the study was to look into how online learning interactions affected learner perceptions of their usefulness and ease of use, which in turn affected their learning outcomes.

Teaching Quality

The knowledge that teachers needed to impart to their students in order for the class to run well and the caliber of the teachers who had established effective teaching strategies were both factors in the quality of teaching. Furthermore, teaching quality also included the evaluation of instructor performance in the classroom and at universities, along with their knowledge, expertise, and abilities in providing instruction. Other tasks included regular classes, the availability of consultations, feedback for assessments, permission to ask questions and receive answers, and effective communication. As stated by Weerasinghe and Fernando (2018), the primary topics covered in academic lectures are content effects, project value results, quality evaluation, and organizational accomplishments.

Academic factors primarily concern whether or whether teachers' abilities and instructional feedback can address the needs and challenges of their students (Osman & Saputra, 2019). El Said (2021) discusses on how important it is for students to be accessible, how accessible student portals should be, and how regular online communication with academic and non-academic staff is necessary. The faculty was no longer only providing students with material; instead, they were able to understand the students' potential skills and capacities through ongoing engagement, which clarified the learning process (Shea & Parayitam, 2019). One important factor influencing student satisfaction is lecturer skill and quality of instruction (Gürbüz & Bayraktar, 2023).

H$_1$: Teaching quality has significant impact on student satisfaction.

College Administration

The administrative services offered by college administration included staff availability during working hours, prompt, courteous service, an attitude and behavior toward service recipients, efficient record-keeping, and high-quality college security (Kaur & Bhalla, 2018). Weerasinghe and Fernando (2018) stated that among the attributes of college administration that may have an effect on student levels of satisfaction are service reliability, capability, empathy, honesty, consistency, and justice. It is the role of administrators to oversee and manage different arrangements (Kaur & Bhalla, 2018).

When Daniel et al. (2017) assessed how satisfied students were with the administrative services provided by the institution, they found a positive and

encouraging trend. Administrative services guarantee that suppliers are paid, staff members are looked after, and enrollments are processed correctly. Academic services refer to all services rendered by faculty members to students in the context of teaching and learning, yet it also serves as an important point of contact for both current and potential students as well as outside vendors and service providers. It comprises activities intended to assist people in acquiring skills and knowledge generally, establishing the foundation for subsequent knowledge acquisition and application (Steppacher et al., 2021). Tandilashvili (2019) indicated that the student satisfaction is significantly influenced by the administrative factor.

H$_2$: College administration has significant impact on student satisfaction.

Campus Life and Social Integration

According to Martirosyan (2015), Campus life and social integration are the student feeling of caring, belonging, and ability to socialize in a learning setting. During their time in school, students enjoyed enough interaction opportunities and felt safe, at ease, and welcomed in the school grounds. Furthermore, student involvement in sustainable campus operations made them feel positive about the campus, eager to participate in all campus events, and hopeful and self-assured about their capacity to effect change. Beyond the classroom, student life encompasses a variety of campus experiences like social gatherings, counseling, wellness and health initiatives, support systems, and extracurricular activities (Elmer et al., 2020).

Extracurricular activities are valuable additions to the official curriculum that allow students to meet new people, develop new abilities, and extend their horizons outside the classroom (Aristovnik et al., 2020). At organized social gatherings, students can make new friends, strengthen current ones, and participate in a range of cultural and recreational activities. By Hawi and Samaha (2017), these events include movie evenings, themed parties, cultural festivals, welcoming receptions, and orientation sessions. By bringing students together, social events enhance the college experience and support the creation of a friendly campus culture that promotes diversity and inclusion (Elmer et al., 2020).

H$_3$: Campus life and social integration have significant impact student satisfaction.

Infrastructure Facilities

As defined by Weerasinghe and Fernando (2018), facilities are the tools that an institution or organization uses on a regular basis and that are developed, constructed, and utilized. An institution sets its facilities with certain goals in mind. An institution sets its facilities based on certain goals. Facilities used inside the school are referred to as internal facilities, and those outside are called external facilities. The facilities and resources provided to students, particularly in terms of

computer technology and library supplies, can impact their degree of satisfaction (Martirosyan, 2015). Hossain et al. (2018) stated that there were services linked to physical amenities such as a well-stocked library, state-of-the-art computer laboratories, parking, study rooms, lecture halls, school buildings, lighting, lecturer's rooms, building appearance, transportation service, rental houses, stores, etc.

Annamdevula and Bellamkonda (2016), campus infrastructure is defined as material engineering facilities that offer living and educational functions on campus. Research has indicated that student happiness is significantly affected by campus infrastructure (Subrahmanyam & Raja Shekhar, 2017). The survey results can assist campus infrastructure, one of the variables influencing the quality of services provided on campus, in realizing its limitations, facilitating better improvement, and enhancing student satisfaction and loyalty Annamdevula and Bellamkonda (2016). Nonetheless, the relationship between campus infrastructure and student satisfaction has been dissected in earlier research. Masserini et al. (2019) revealed that there are variations in library facilities and that students have access to education.

H4: Infrastructure facilities influence on student satisfaction significantly.

Institution Reputation

The organizational reputation is known as the emotional assessment of an organization by the general public (Lievens, 2017). A firm reputation is largely long-term and stable because of how external observers evaluate the activities and accomplishments of the organization as a whole (Eckert, 2017). Hoffmann et al. (2016), a company reputation indicates its sincerity. Depending on research by Chanaka Ushantha and Samantha Kumara (2016), students rank the reputation dimension of a university's service quality as the lowest. In order to enlighten students, marketing campaigns and promotional initiatives must be planned. Purwanto (2020) came to the conclusion that the university upholds its reputation by providing services at a sufficient level.

The strength and involvement of instructors and alumni, along with the accomplishments, contributions, and outcomes of talent development and scientific research, are the primary sources of a university's standing, prestige, and influence (Panda et al., 2019). An institution reputation is made over time by consistently achieving and exceeding its predetermined objectives. Student satisfaction is influenced by institutional reputation, therefore a university with a good reputation will have a greater impact on student satisfaction (Bakrie et al., 2019). Student satisfaction with online learning is positively impacted by a university reputation.

H5: Institution reputation influences on student satisfaction significantly.

Student Satisfaction

Customer satisfaction is an important feature of business, including marketing. As stated by Purwanto (2020), Client satisfaction is the emotion that follows from a person comparing their expectations and perceptions of a product performance and determining whether they are satisfied or not. It is essential that university administration take student satisfaction into account. It is crucial since it can give students a comfortable environment. Students that are highly satisfied will perform well academically, love learning, and lead comfortable lives. Additionally, they will undoubtedly behave and exhibit the proper attitudes for their university, particularly with regard to student loyalty (Zaini et al., 2020). Therefore, it is crucial for university administration to determine the elements influencing student satisfaction and loyalty.

Students are considered satisfied when they make a comparison between the results they received and the amount of education they expected from the school (Teeroovengadum et al., 2019). Pibulcharoensit (2022), student satisfaction is determined as the majority and universal subjective feelings of students about the education services provided by their universality. Accordingly, a number of components as the students' level of satisfaction, the quality of the services provided, and the university's goodwill, have a significant impact on the students' loyalty to higher education institutions (Yusof et al., 2019). Darawong and Widayati (2022) revealed that it is a condition being felt by a student when his/her expectations towards services are fulfilled by an academic institution.

H6: Student satisfaction significantly effect on student loyalty.

Student Loyalty

Purwanto et al. (2020) defined loyalty as a consumer dedication to a retailer, brand, or supplier stemming from a positive outlook manifested by regular repurchases. In general, customer loyalty mentioned to a person devotion to a certain product, including specific items or services. Yet in view of tertiary education, the emphasis and application of loyalty have primarily been attitudinal. It has been suggested that word-of-mouth is a crucial component of student retention methods that student loyalty is the condition in which students can refer the tertiary institutions to other potential students (Amegbe et al., 2019). Consequently, the conversations students have about universities acts a vital role in determining how they feel about the organization and the services it offers. These frequently show up as their goals and actions, such referrals and re-enrollment.

Before graduating, loyalty enables students to promote their university to others and persuade acquaintances to apply to the same higher education institution (Arboleda & Alonso, 2017). Snijders et al. (2019), alumni serve as a great source of loyalty and are of enormous value for tertiary institutions because students can spend time and money on their former institution. Further, prospective students can

benefit greatly from the encouragement of alumni. Satisfaction from students is the most important element that contribute student loyalty while some have argued that student satisfaction doesn't seem to be a determining factor in student loyalty (Gallegos & Vasquez, 2019).

Conceptual Framework

The conceptual framework of this study was mainly composed of the underlying theories of the Stimulus-Organism-Response (SOR), service quality, and four previous theoretical frameworks. The first was conducted by Kieng et al. (2021), discussed about the relationship between Campus Life and Social Integration and Student Satisfaction. The second was conducted by Long et al. (2021), mostly focused about the relationship between College Administration and Student Satisfaction. The third was conducted by Hok et al. (2021), largely studied the connection between Teaching Quality, Infrastructure Facilities and Student Satisfaction. The fourth was conducted by Mbango and NGOBENI (2022), primely examined the relationship between Institution Reputation and Student Satisfaction, and Student Satisfaction itself and Student Loyalty.
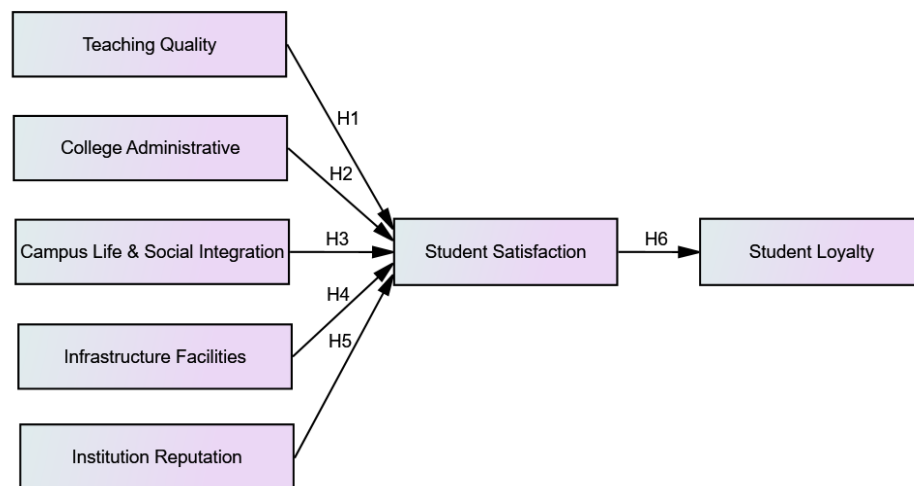
Figure 1: Conceptual Framework for the Study
Source: Constructed by Author

RESEARCH METHODOLOGY

This research used a qualitative approach to thoroughly evaluate the previous literature in order to pinpoint and summarize the major variables influencing student satisfaction and loyalty in tertiary education in Cambodia. According to Schindler (2019), document analysis is the methodical process of going over or assessing documents in order to extract meaning, gain understanding, and develop empirical knowledge. To facilitate the systematic review and examination of the selected documents, the primary research tool employed was mapping major

themes (Creswell & Creswell, 2022). Articles relevant to student satisfaction and loyalty were collected to further study to make sure each result from these previous researches give clear paths to the objectives of this study. Comparative results from many published sources were thoroughly and carefully examined in order to gauge the relationship among the research constructs.

RESULT AND DISCUSSION

Teaching Quality and Student Satisfaction

Liu and Li (2025) confirmed that there were substantial positive relationships between teacher image, student expectations, teaching quality, perceived value, and student satisfaction, according to data collected from 937 students at Anshan Normal University. Furthermore, satisfaction was positively impacted by the perceived value of the educational experience, which increased student loyalty. In a similar vein, Suriadi et al. (2025) employed a sample of 300 Islamic University students. The results showed that excellent professor performance and high-quality educational services can boost student satisfaction, which greatly increases student loyalty. In addition, Zhai (2023) gathered data from 500 undergraduate students at two universities in Zhejiang. The findings showed that academic components, placement services, infrastructure facilities, professors, and instruction all had a major impact on student satisfaction. Student loyalty is influenced by student happiness. Conversely, there was no evidence to establish the link between student satisfaction and college management.

Plus, a poll of 500 students at Xihua University in Chengdu revealed that image had a significant impact on both satisfaction and loyalty, whereas satisfaction had the biggest impact on loyalty. Furthermore, satisfaction was impacted by academic assistance, instructional quality, and facilities, but there was no significant connection between administration and satisfaction (Song, 2022). Similarly, Hok et al. (2021), using a sample of 600 students at a private institution, discovered that student satisfaction is significantly impacted by curriculum quality, service facilities, teaching quality, and campus life and social integration. Furthermore, while college administration, financial aid, and tuition fees have no discernible effect on student satisfaction. To sum up, the influence of teaching quality on student satisfaction in higher education is summarized in Table 1.

Table 1 Teaching Quality and Student Satisfaction

Research Topic	Analysis Method	Finding	Authors
Factors Influencing Student Satisfaction and Loyalty in Blended Learning Model: Insight from Anshan Normal University	SEM	Teaching quality significantly influenced on student satisfaction	Liu and Li (2025)

Research Topic	Analysis Method	Finding	Authors
Analysis of Student Satisfaction and Loyalty Trough Educational Service Quality and Lecturer Performance in Islamic University	SEM	Good lecturer performance quality significantly influenced on student	Suriadi et al. (2025)
Impacting Factors of Student Satisfaction and Loyalty: A Case Study of Private Universities in Zhejiang, China	SEM	Teaching quality significantly influenced on student satisfaction	Zhai (2023)
Factors Affecting Student Satisfaction and Loyalty: A Case Study of Xihua University	SEM	Teaching quality significantly influenced on student satisfaction	Song (2022)
Determinants of Student Satisfaction on Continuing Education Intention: A Case Study of Private University in Cambodia	SEM	Teaching quality significantly influenced on student satisfaction	Hok et al. (2021)

Source: Constructed by Author

College Administration and Student Satisfaction

With a sample size of 640 students at Z College, Sipayung (2024) indicated that the quality of lectures, the physical facilities, the supporting facilities, the administrative services, and student affairs have a positive effect on student satisfaction. Similarly, Surya Bahadur et al. (2024) gathered data from 659 respondents at Pokhara University in Nepal and North Eastern Hill University in India. The results revealed that administrative services and program elements have a beneficial impact on student satisfaction. However, it was discovered that physical facilities and instructor qualities had no bearing on student pleasure. By collecting data from 400 Ghanaian university students, the findings showed that while physical evidence has no bearing on student satisfaction, positive and significant association between academic services, administrative services, and satisfaction (Amoako et al., 2023).

Student satisfaction is significantly impacted by academic aspects, college administration, physical facilities, and placement services, according to a test of 500 students from the two public universities in the state of Zhejiang. Student loyalty is significantly impacted by student satisfaction. However, Zhai (2022) disapproved of the connection between teachers, instruction, and student satisfaction. 369 Indian students were in the sample. According to Kaur and Bhalla (2018) research, student happiness is positively and significantly impacted by infrastructure amenities, academic atmosphere, college administration, learning materials, financial administration, and extracurricular activities. In summary,

Table 2 lists college administration as one of the most crucial elements influencing student satisfaction with their tertiary education.

Table 2 College Administration and Student Satisfaction

Research Topic	Analysis Method	Finding	Authors
The Impact of Service Quality Factors on College Student Satisfaction	PLS-SEM	Administrative service significantly influenced on student satisfaction	Sipayung (2024)
The Effect of Higher Education Service Quality on Satisfaction Among Business Students in India and Nepal	PLS-SEM	Administrative service significantly influenced on student satisfaction	Surya Bahadur et al. (2024)
Service Quality Affecting Student Satisfaction in Higher Education Institutions in Ghana	Multiple Regression	Administrative service significantly influenced on student satisfaction	Amoako et al. (2023)
The Antecedents of Student Satisfaction and Loyalty in Public Universities in Zhejiang, China	SEM	College administration significantly influenced on student satisfaction	Zhai (2022)
Determinants of Effectiveness in Public Higher Education-Students' Viewpoint	SEM	College administration significantly influenced on student satisfaction	Kaur and Bhalla (2018)

Source: Constructed by Author

Campus Life and Social Integration and Student Satisfaction

By analyzing data from 500 students in Zhaotong City, China by structural equation modeling, Zhang (2024) discovered that campus life and social integration, student support facilities, academic experiences, and service quality greatly influence student satisfaction. Alshareef et al. (2023) used a random sampling technique to gather 302 replies from three private universities in Jeddah. The results found that university image greatly affects student loyalty, while student happiness has a moderate influence on student loyalty. Additionally, student satisfaction is somewhat positively impacted by university image. Moreover, student satisfaction is significantly impacted by academic experience, student life, and support.

Furthermore, Kieng et al. (2021) gathered 543 survey responses from three Cambodian colleges and used structural equation modeling for analysis. The findings demonstrated that the satisfaction and loyalty of students are significantly influenced by campus life and social integration, student support facilities, university image, and faculty services. Demographics, student support facilities, faculty services, campus life and social integration, academic experience, and

overall student happiness are all related, according to a sample of 372 respondents from 12 Armenian colleges (Martirosyan, 2015). Consequently, campus life and social integration had a significant effect on student satisfaction as seen in Table 3.

Table 3 Campus Life and Social Integration and Student Satisfaction

Research Topic	Analysis Method	Finding	Authors
Grade Can Be Classified Effectively with the Measures of Student Satisfaction and Loyalty: A Case of a School in Yunnan, China	SEM	Campus life and social integration significantly influenced on student satisfaction	Zhang (2024)
The Building Blocks of Student Loyalty in Saudi Private Universities: A Marketing Perspective	Correlation analysis & ANOVA	Student life and support significantly influenced on student satisfaction	Alshareef et al. (2023)
Determinants of Student Satisfaction on Continuing Education Intention: A Case Study of Private University in Cambodia	SEM	Campus life and social integration significantly influenced on student satisfaction	Hok et al. (2021)
Critical Factors Affecting Student Satisfaction and Loyalty: An Empirical Study in Cambodia	SEM	Campus life and social integration significantly influenced on student satisfaction	Kieng et al. (2021)
An Examination of Factors Contributing to Student Satisfaction in Armenian Higher Education	Multiple Regression	Campus life and social integration significantly influenced on student satisfaction	Martirosyan (2015)

Source: Constructed by Author

Infrastructure Facilities and Student Satisfaction

The 440 graduate students from 11 Lahore-based private universities in Pakistan, participated in an empirical study by Ikram et al. (2025). The findings showed that teaching and learning resources, physical infrastructure and facilities, instructional strategies, and student satisfaction evaluation are all significantly and favorably correlated. Cao (2023) employed a structural equation model to test data from 500 college students from three reputable Chongqing universities. The results demonstrated that student loyalty is significantly impacted by faculty service, school infrastructure, academic elements, reputation, access, and student satisfaction. Student loyalty is highly influenced by student satisfaction, which is

followed by teacher service, academic aspects, campus infrastructure, access, and reputation.

Table 4 exhibited another determinant of student satisfaction was infrastructure facilities (Kieng et al., 2021), which in line with the studies as Zhai (2023) and Kaur and Bhalla (2018). Available sufficient playgrounds in the university, enough parking space in the university, availability of adequate number of washrooms in the university, available fresh drinking water, and well-equipped classrooms lead to student satisfaction.

Table 4 Infrastructure Facilities and Student Satisfaction

Research Topic	Analysis Method	Finding	Authors
The Impact of Education Quality Indicators on Students' Satisfaction	PLS-SEM	Physical infrastructure and facilities significantly influenced on student satisfaction	Ikram et al. (2025)
Impacting Factors of Student Satisfaction and Loyalty: A Case Study of Private Universities in Zhejiang, China	SEM	Infrastructure facilities significantly influenced on student satisfaction	Zhai (2023)
Service Quality Aspects Influence on Student Satisfaction and Loyalty in Chongqing, China	SEM	Campus facilities significantly influenced on student satisfaction	Cao (2023)
Critical Factors Affecting Student Satisfaction and Loyalty: An Empirical Study in Cambodia	SEM	Student Support Facilities significantly influenced on student satisfaction	Kieng et al. (2021)
Determinants of Effectiveness in Public Higher Education-students' Viewpoint	SEM	Infrastructure facilities significantly influenced on student satisfaction	Kaur and Bhalla (2018)

Source: Constructed by Author

Institution Reputation and Student Satisfaction

Yao (2023) tested structural equation modeling using a sample data of 500 students of Taiyuan Institute of Technology. The findings showed that both teaching care and student satisfaction are significantly impacted by the built environment. Student satisfaction and loyalty are greatly influenced by the constructed environment, academic components, student trust, instructional care, and university image. Mbango and NGOBENI (2022) discovered a strong and positive correlation between perceived value, trust, institutional reputation, service quality, and commitment and satisfaction. Moreover, student happiness impacts on loyalty. Nonetheless, student satisfaction was somewhat influenced by

commitment. Besides, satisfaction fully mediates the impact of service quality and trust on loyalty and partially mediates the effects of commitment, perceived value, and institutional reputation.

Student loyalty is significantly impacted by institution image, switching fees, and student happiness (Ali et al., 2021). In order to raise the cost of moving universities and so aid in student retention, universities may offer both monetary and nonmonetary incentives. Using a sample size of 312 Indonesian students, Mulyono et al. (2020) demonstrated that student satisfaction significantly mediated the relationships between academics and student loyalty, non-academic and student loyalty, reputation and student loyalty, and campus access and student loyalty. Yet, student satisfaction did not significantly mediate the relationships between program issues and student loyalty. In conclusion, Table 5 shows a significant relationship between student satisfaction and institution reputation.

Table 5 Institution Reputation and Student Satisfaction

Research Topic	Analysis Method	Finding	Authors
Factors Affecting Satisfaction and Loyalty of Social Science Students in A Public University in Shanxi, China	PLS-SEM	University image significantly influenced on student loyalty	Yao (2023)
Service Quality Aspects Influence on Student Satisfaction and Loyalty in Chongqing, China	SEM	Reputation significantly influenced on student satisfaction	Cao (2023)
The Mediating Effect of Student Satisfaction on Loyalty in South Africa Open Distance E-Learning Institutions	PLS-SEM	Institution reputation significantly influenced on student satisfaction	Mbango and Ngobeni (2022)
The Role of University Switching Costs, Perceived Service Quality, Perceived University Image, and Student satisfaction in Shaping Student Loyalty	SEM	University image significantly influenced on student loyalty	Ali et al. (2021)
Effect of Service Quality Toward on Student Satisfaction and Loyalty in Higher Education	SEM	University image significantly influenced on student loyalty	Mulyono et al. (2020)

Source: Constructed by Author

Student Satisfaction and Student Loyalty

The 875 respondents participated in the study conducted by Supriyanto et al. (2024). The structural equation model was employed to analyze the data, and the

results showed that partnership quality directly affects student satisfaction, student satisfaction directly affects student loyalty, partnership quality of tertiary education institutions with legal entities has no impact on student loyalty, and partnership quality indirectly influences student loyalty through student satisfaction. A study that included 150 students from the top five universities in West Jakarta showed that student loyalty is positively correlated with perceived quality, student satisfaction, and student trust and, further, student loyalty is influenced by perceived quality through student satisfaction (Elistia et al., 2022).

Two hundred students from Malaysian private universities were polled by Ahmad et al. (2021). Analysis discovered that the primary factor influencing student loyalty was student satisfaction. Plus, while student satisfaction partially mediated the association between the support system and student loyalty, it totally mediated the connection between academic facilities and student loyalty. DOAN (2021) collected data from 278 Vietnamese public university students. The findings demonstrated that student satisfaction, student loyalty, and institution sustainability practices are significantly impacted by service quality. Additionally, the relationship between service quality and student loyalty is mediated by university sustainability practices and student satisfaction. In summary, the student satisfaction has been identified as a prerequisite for developing student loyalty as listed in Table 6.

Table 6 Student Satisfaction and Student Loyalty

Research Topic	Analysis Method	Finding	Authors
Partnership Quality, Student Satisfaction and Loyalty: A Study of Higher Education Legal Entities in Indonesia	SEM	Student satisfaction significantly influenced on student loyalty	Supriyanto et al. (2024)
Perceived Quality, Trust, Satisfaction on Student Loyalty in Private Universities	SEM	Student satisfaction significantly influenced on student loyalty	Elistia et al. (2022)
The Mediating Effect of Student Satisfaction on Loyalty in South Africa Open Distance E-Learning Institutions	PLS-SEM	Student satisfaction significantly influenced on student loyalty	Mbango and Ngobeni (2022)
The Impact of University Entities on Students' Loyalty: The Mediating Role of Student Satisfaction	PLS-SEM	Student satisfaction significantly influenced on student loyalty	Ahmad et al. (2021)
The Effect of Service Quality on Student Loyalty and Student	PLS-SEM	Student satisfaction significantly	Doan (2021)

Research Topic	Analysis Method	Finding	Authors
Satisfaction: An Empirical Study of Universities in Vietnam		influenced on student loyalty	

Source: Constructed by Author

CONCLUSION

In literature review has provided a comprehensive theoretical framework and empirical studies for understanding factor influencing student satisfaction and loyalty in tertiary education. The underlying theory of the Stimulus-Organism-Response (SOR) and service quality were applied as foundation of conceptual framework of this study, where influencing factors play as stimuli, student satisfaction acts as organism and student loyalty serves as response. Further, four previous empirical studies were used to determine the key antecedences of student satisfaction and loyalty, consisting of teaching quality, campus life and social integration, college administration, institution reputation, and infrastructure facilities.

A vast number of empirical papers investigating student satisfaction and loyalty in the setting of higher education are reviewed and demonstrated that there is significantly influenced between those factors and student satisfaction and loyalty. Moreover, the structural equation modeling (SEM) was widely use to analyze the relationship between those factors. Getting better empirical results for higher education in Cambodian context, these findings open floor for further study by using a sophisticated statistic model as the structural equation modeling (SEM) in order to test the relationship among constructs.

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