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The Influence of Service Quality Aspects on Satisfaction and Loyalty of Graduate Students in Chongqing, China

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Abstract

Purpose: To attract students and grow the size of universities, it is vital to improving the indicators and quality of universities. The main objective of this study was to determine the significant effect of faculty services, campus infrastructure, academic aspects, university reputation, and access to university services to determine student satisfaction and student loyalty. **Research design, data, and methodology:** A quantitative method (n=500) was used to conduct a questionnaire survey among college students in Chongqing. A non-probability sampling includes the selection of three well-known universities in Chongqing for judgment sampling. Quota sampling is to determine the proportionate sample of student. Convenience sampling was conducted via online questionnaire to collect data. Structural equation model (SEM) and confirmatory factor analysis (CFA) were used to analyze the data's model fitting, reliability, and validity. **Results:** Faculty service, campus infrastructure, academic aspects, reputation, access, and student satisfaction significantly affected student loyalty. Student satisfaction had the greatest impact on student loyalty, followed by access, reputation, academic aspects, faculty service, and campus infrastructure. **Conclusions:** It is suggested that universities establish a better visiting mechanism, improve their reputation and academic level, attach importance to faculty services and campus infrastructure, and promote student satisfaction and loyalty.

Keywords: Faculty Service, Campus Infrastructure, Academic Aspects, Student Satisfaction, Student Loyalty

JEL Classification Code: E44, F31, F37, G15

1. Introduction

Higher education has altered significantly over time (Chong & Ahmed, 2013). Only the best pupils could enroll in the few colleges that existed in the past. To attract students and grow the size of universities, it is vital to improving the indicators and quality of universities and their competitiveness due to the rise in university numbers. Most institutions still need to compete in the market to draw better students, even if certain prominent universities can still recruit the students they want (Sultan & Wong, 2010).

Students mostly determine the quality of college services. Since more than 40 years ago, there has been a persistent focus on student happiness, and many universities have implemented strict measuring techniques. Great Britain is the first nation to implement the curricular experience questionnaire and pay attention to students' emotions. The UK Centre for Quality used the Course Experience

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Questionnaire to study student satisfaction in the 1980s. Since then, Midlands University has surveyed its students yearly on their happiness. The Australian Graduate Employment Council began to include a question about course experience in its yearly national opinion poll in 1992. The Customer Satisfaction Index approach was first used in a large study of student satisfaction in 1995 in the United States, which polled more than 670,000 students at 860 colleges and universities. Using the University of Sydney curriculum Experience Questionnaire, Oxford University evaluated 1,500 students in 2002. In 2007, more than 170,000 students from around the UK participated in the poll. Student satisfaction surveys are also used by The Times for its rankings, which are given a 15% weight.

Universities have yet to give much thought to the issue of service quality in higher education. Student contentment, student loyalty, and school reputation have increasingly drawn people's attention and now even help determine whether a university can survive as a society, and higher education has become more competitive (Dennis et al., 2016; Manatos et al., 2015; Psomas & Antony, 2017). Student happiness, school reputation, and student loyalty are increasingly included in the idea of the quality of service in higher education in the academic research literature (Alves & Raposo, 2007; Bassi, 2019). However, implementing this idea is still in its infancy and requires further research (Mizikaci, 2006). The success of a business relies on how well its services are provided in today's cutthroat market. In order to fulfill market demands, institutions focus on raising their overall quality (Mehralizadeh & Safaeemoghaddam, 2010).

According to this concept, as competition for students, faculty, and research findings becomes more global, higher education institutions confront comparable difficulties brought on by quickly evolving technology (Smith et al., 2007). The objectives of universities are tied to the quality of higher education, which is essential for student development, academic advancement, and the coordinated development of the nation. Higher education increases quality by highlighting the variety of students as subjects and consumers (stakeholders), the adaptability of student demand for institutions, and the intense global competition. In other words, a college education aims to foster the development of the whole person (Becket & Brookes, 2008). The primary goals of raising higher education service quality are to boost stakeholder satisfaction, acquire their loyalty, grow the stakeholder base, and create a close bond with them (Johnston & Kong, 2011). Therefore, the main objective of this study was to fill the research gap to determine the significant effect of faculty services, campus infrastructure, academic aspects, university reputation, and access to university services to determine student satisfaction and student loyalty.

2. Literature Review

2.1 Faculty Services

Faculty service is the efficiency and caliber of instruction demonstrated by instructors with professional training and preparation (Pop et al., 2008). According to Kashif and Ting (2014), faculty service is the faculty member's aptitude and readiness to address students' issues. Faculty service is the ability of teachers to handle knowledge flexibly, transform it into student-friendly teaching techniques, respond appropriately to students' difficulties, and give pertinent reference materials (Hsu et al., 2006). A university's reputation is closely correlated with the respect it obtains and the quality of its faculty's services (Aleu et al., 2021). A customer-driven strategy is used in higher education, with students serving as the primary clients (Akareem & Hossain, 2016). Impact of faculty service on students' attitudes (Langstrand, 2015). The kids will gain a larger course, the teacher will be entertaining in class, and the teacher will be more pleased with the students (Fernandes et al., 2013).

Faculty service receives more priority when assessing student satisfaction. Students will respond more favorably to instructors who treat difficulties with students openly, fairly, and impartially without showing bias or preference (Martirosyan, 2015). Students are happier when teachers actively address their concerns (Bentler, 1990). Thanks to its manifestation, students will sense the significance of teacher service more strongly (Rafik & Priyono, 2018). According to references, there is a connection between teachers' service and students' loyalty (Aleu et al., 2021). Student satisfaction is increased when they perceive teachers as informed, concerned for their needs, and acting in a way that inspires trust in them (Chaudhary & Dey, 2020). Thus, a hypothesis is set:

H1: Faculty services has a significant impact on student satisfaction.

2.2 Campus infrastructure

The material engineering facilities that provide campus instructional and life services are called campus infrastructure (Annamdevula & Bellamkonda, 2016). The university facilities are generally complete, with classrooms, libraries, and various sports facilities for reading, learning, amusement, and sports (Peng & Samah, 2006). Infrastructure on campuses can generally be divided into three categories. Facilities for learning, like labs and lecture halls. Living accommodations, including dormitories and canteens. Regarding conveniences like campus transportation and banking services (Harvey, 2003). Campus living facilities like dorms, transportation, libraries, and sports fields are also included in the infrastructure of the campus, in addition to

the technical support for classrooms (Arif & Ilyas, 2013).

Campus infrastructure is among the most important factors in student satisfaction (Subrahmanyam & Raja Shekhar, 2017). The better the campus infrastructure, the higher student satisfaction (Price et al., 2003). If campus infrastructure meets students' expectations, it will positively impact the school's reputation and students' awareness (Harvey, 2003). Based on previous literatures, this study hypothesizes that:

H2: Campus infrastructure has a significant impact on student satisfaction.

2.3 Academic aspect

The literary element includes the importance of a university's faculty curriculum and the volume, nature, and scope of its research endeavors (Ali et al., 2016). In British universities, the faculty is the primary source of such help and guidance. The academic part relates to the techniques and procedures of researching and finding new information (Davis, 2001). Academic lectures often discuss organizational successes, quality assessment, project value outcomes, and content impacts (Weerasinghe & Fernando, 2018). The academic component primarily concerns whether instructors can meet students' requirements and fix difficulties by providing feedback (Osman & Saputra, 2019).

According to research by Ali et al. (2016), most students think that literary elements would impact their happiness, which suggests that the breadth and depth of the courses provided, their consistency, and their originality are key determinants of service quality. In the survey, Law (2010), Yildiz and Kara (2009) discovered that instruction garners greater attention from students and has a favorable effect on their loyalty. According to correlation, academic assistance is one of the factors that most strongly correlates with students' overall happiness (Fernandes et al., 2013). Additionally, the quality of instruction and the conduct of professor's impact college students' contentment (Weerasinghe & Fernando, 2018). Hence, a hypothesis is suggested:

H3: Academic aspect has a significant impact on student satisfaction.

2.4 Reputation

When universities interact with students, reputation is typically created from a business perspective (Schuler, 2004). Reputation is a type of evaluation feeling typically formed by students over a long period, including a thorough assessment of the school's design, the caliber of its students, the caliber of its teachers, and the rate of admission (Bennett & Rentschler, 2003). According to Fombrun et al. (2000), reputation refers to a long-term, thorough, and ongoing evaluation of a university's capacity to offer valuable services to students.

A university's reputation is a common and reliable way for people to judge it (Yang, 2007). The institution's reputation is what we are referring to here, and it refers to how students see the university overall and evaluate each of its components equally (Panda et al., 2019). The strength and contributions of academics and alumni, as well as the successes, contributions, and outcomes of talent development and scientific research, should be the primary sources of a university's standing, prominence, and influence.

Factors that increase student happiness may also improve a school's reputation (Johnson et al., 2001). The reputation of a school was directly impacted by student happiness (Sirgy & Samli, 1985). The studies by Helgesen and Nesset (2007) and Ahmad (2015) demonstrate that a university's reputation and student happiness also influence student loyalty.

A student's decision to attend a certain institution is heavily influenced by its reputation (Bush et al., 1998). The relationship between these two factors demonstrates that a university's reputation might be based on its ability to satisfy its students. In other circumstances, the university's reputation is a recruiting tool for new students. However, the level of satisfaction is based on the effectiveness of the service, the information received, the exposure, and the overall impact on the student's future and employability (Badri & Mohaidat, 2014). Therefore, a following hypothesis is proposed:

H4: Reputation has a significant impact on student satisfaction.

2.5 Access

Access mostly refers to the ease with which faculty members may be contacted and questioned (Ali et al., 2016). The major purpose is to assess university employees' professionalism, productivity, and impact. Additionally, university employees are efficient and capable of responding to inquiries with timely and impartial information (Errey & Wood, 2011). Additionally, it applies to businesses. According to Douglas et al. (2008), access denotes the ease, disposition, and outcome of speaking with workers. Access, according to Firdaus (2005), involves three components. The first one can be reached. It is simple to ask for and find. It is simple to connect to the second point. The inquirer finds this procedure to be handy. Third, the staff members may help the questioner and are valuable.

According to Jancey and Burns (2013) visits are unquestionably a communication link between students and professors for colleges and universities. They act as internal and external links between students and teachers and provide possibilities for tailored ideas and feedback. The degree to

which students are satisfied may suffer from a negative assessment of the "access" feature (Ali et al., 2016). Students need access to the auxiliary environment more than anything else (Douglas et al., 2008). From the standpoint of the students, one of the most critical elements of any university service is access (Abdullah, 2006). According to the research of Firdaus (2005), students think that only "access" affects service quality. El Said (2021) talks about the value of accessibility for students, the need for access to student portals, and the necessity of regularly engaging with academic and non-academic staff online. Accordingly, a developed hypothesis is cascaded:

H5: Access has a significant impact on student satisfaction.

2.6 Student Satisfaction

Being satisfied is feeling as if your experience has come close to or met your expectations (Arif & Ilyas, 2013). Customer satisfaction in marketing refers to consumers' assessments of services based on their extensive use of such services (Anderson et al., 1994). Student satisfaction refers to how students feel after evaluating their expectations of the school's teaching quality and the results achieved (Teeroovengadum et al., 2019).

The notion of student satisfaction is represented in the effectiveness of instruction and evaluations of perceptions made after using different higher education services (Elliott & Healy, 2001). As a result, the term "student satisfaction" refers to students' subjective perceptions of the educational services provided at their schools (Elliott & Shin, 2002; Min et al., 2022).

There are many strategies to increase student satisfaction if the SERVQUAL model is utilized to assess the service quality of the delivered items. According to Zeithaml et al. (1990), five characteristics need to be evaluated about the service offered to attain customer satisfaction. They are trustworthiness, promptness, assurance, tangibles, and empathy.

Theresia and Bangun (2017) talked about how student satisfaction leads to loyalty at five universities in Indonesia. They said the above factors would help determine the two most important things. They are how happy people are with the university, the school's facilities and infrastructure, and the study program itself. The answers and reassurances from the university are important to the students. Students also want a trustworthy service provider to do what they say they will do. Students do not expect to use their time in college as a trial run. They want something to happen that will make their lives better. To reach this goal, it is important to have well-equipped classrooms, study materials, and friendly, easy-to-reach academic and non-academic staff. These are all necessary parts of providing good service that makes people happy. Thereby, a hypothesis is developed:

H6: Student satisfaction has a significant impact on student loyalty.

2.7 Student Loyalty

Student loyalty keeps higher education relevant (Le Roux & Van Rensburg, 2014). One must consider students as clients since colleges are marketing their product offerings to students. The ordinary consumer's dedication to a product or service makes them a customer (Mandhachitara & Poolthong, 2011). According to Esfijani et al. (2013), university social responsibility enables the institution to combine its tasks to satisfy society's expectations in an ethical way. Student loyalty also entails the development of trust with the service provider.

Students are a part of society as it is. Students' readiness to actively advocate and endorse schools, including their willingness to continue studying in the future, is often how they demonstrate their devotion to institutions (Dado et al., 2012). In general, three components make student loyalty: subjective initiative, enrollment, and word-of-mouth (Clemes et al., 2013). Allegiance refers to the students' behavioral orientation and psychological attribution toward the institution (Ali et al., 2016). Sincerity, devotion, and commitment are the three characteristics of loyalty. The decision to follow it is unaffected by other influences and attractions, even if they exist (Oliver, 1997).

As Chandra et al. (2019) have shown, student happiness is linked to student loyalty. According to Chu and Kim (2011), there is no direct correlation between customer happiness and loyalty. However, satisfaction fluctuations will affect loyalty. Satisfaction affects loyalty, but it is not the sole reason (Fornell, 1992). Positive student satisfaction has a positive impact on students' loyalty (Subrahmanyam & Raja Shekhar, 2017).

Student happiness has been cited as one of the key elements influencing students' loyalty in several academic works (Ryu et al., 2012). Similarly, Latif and Ahmad's examination of how colleges boosted student loyalty in 2021 highlights several important points, including the importance of telling others about one's school through different social media platforms. The target market for most colleges nowadays is mostly comprised of overseas students. In this sense, overseas students' commitment is free publicity for colleges.

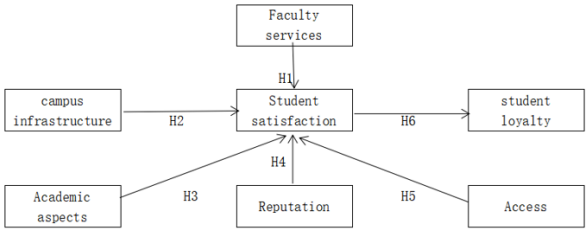
3. Research Methods and Materials

3.1 Research Framework

The conceptual framework was developed from previous research frameworks and adapted from three theoretical

models. Firstly, Martirosyan (2015) investigated the impact of faculty services (FS) on student satisfaction (SS). Secondly, Subrahmanyam and Raja Shekhar (2017) confirmed the significant impact of campus infrastructure (CI) on student satisfaction (SS) and student satisfaction (SS) on student loyalty (SL). The third study comes from Ali et al. (2016). They use three variables which are academic aspects (AA), reputation (R), and access (A) proved to have a great impact on student satisfaction (SS).

The conceptual framework of this study is shown in Figure 1.



Fiqure1: Conceptual Framework

H1: Faculty services has a significant impact on student satisfaction.
H2: Campus infrastructure has a significant impact on student satisfaction.
H3: Academic aspect has a significant impact on student satisfaction.
H4: Reputation has a significant impact on student satisfaction.
H5: Access has a significant impact on student satisfaction.
H6: Student satisfaction has a significant impact on student loyalty.

3.2 Research Methodology

Using a quantitative non-probabilistic sampling method, the researchers sent online questionnaires to the study in Chongqing, China. The key factors that significantly affect student satisfaction are collected and analyzed. The investigation is divided into three steps. First, the characteristics of the interviewees are determined by screening the questions. Secondly, population issues include gender and educational attainment. Finally, we used a 5-point Likert scale to measure five proposed variables, ranging from strongly disagree (1) to agree (5), for all six hypotheses strongly. The Item Objective Congruence (IOC) Index is used as the basis for screening the item quality. Thus, content validity is that the measuring items were given expert to score each item. The results are that all items passed at a score above 0.60.

In the pilot test, 30 respondents were investigated by Cronbach's Alpha method for reliability test. The Cronbach's Alpha reliability test is greater than the cut-off points of 0.7. After the reliability test, the questionnaire was sent to the target respondents, and 500 questionnaires were received. The researchers used JAMOVI to analyze the data they collected. Then, confirmatory factor analysis (CFA) was used to verify the convergence accuracy of the algorithm. In the case of given data, the model fitting quantity is calculated through the whole test to ensure the effectiveness and reliability of the model. Finally, a structural equation model (SEM) was used to test the influence of each variable.

3.3 Population and Sample Size

The target population of this paper is graduate students at Chongqing university. The sample size of the structural equation model indicates that at least 200 respondents (Kline, 2005) should be involved in the study. The survey involved 557 people. After data screening, 500 questionnaires were used in this study.

3.4 Sampling Technique

The researchers used non-probability and judgment sampling methods to select three well-known universities in Chongqing. Judgmental sampling is used per consideration of the research to identify the sample group that can serve the research purpose. Then, using quota sampling, the total number of graduates in the three universities was 21,078. As shown in Table 1. The researchers then distributed questionnaires online using convenience sampling. The data was collected over about five months between March and July 2022. Through data screening to ensure the accuracy of the target objects, all are graduates of Chongqing University in China. The online questionnaire is made by "Questionnaire Star," distributed through WeChat, QQ, and other social software, and completed by students sharing survey links among primary grades.

Table 1: Sample Units and Sample Size

Name of University	Population Size	Proportional Sample Size
Sichuan International Studies University	2078	49
Southwest University	13000	308
Southwest University of Political Science and Law	6000	143
Total	**21078**	**500**

Source: Constructed by Author.

4. Results and Discussion

4.1 Demographic Information

The demographic target was 500 participants, with 224 male respondents accounting for 44.8% and 276 female respondents accounting for 55.2%, as shown in Table 2.

Regarding to the graduate programs that respondents are participating, the main group is the master's degree, accounting for 79.6%, whereas doctorate degree is 20.4%.

Table 2: Demographic Profile

Demographic and General Data (N=500)		Frequency	Percentage
Gender	Male	276	44.8
	Female	224	55.2
Graduate Programs	Master's degree	398	79.6
	Doctorate Degree	102	20.4

4.2 Confirmatory Factor Analysis (CFA)

This research used confirmatory factor analysis (CFA). All items in each variable were significant and reflected factor loads to test for differential validity. The fit quality is determined by each item's importance and acceptability of the factor loads (Hair et al., 2010). The p-value was less than 0.05, and the factor load was larger than 0.30. As indicated in Table 3, The Cronbach's Alpha reliability test is greater than the cut-off points of 0.7. The average mean variance is more than the cut-off point of 0.5, and the structural dependability is greater than the cut-off points of 0.7 (Fornell & Larcker, 1981). Thus, all estimate is significant.

Table 3: Confirmatory Factor Analysis Result, Composite Reliability (CR) and Average Variance Extracted (AVE)

Variables	Source of Questionnaire (Measurement Indicator)	No. of Item	Cronbach's Alpha	Factors Loading	CR	AVE
Faculty Service (FS)	(Martirosyan, 2015)	4	0.778	0.502-0.813	0.790	0.491
Campus Infrastructure (CI)	(Annamdevula & Bellamkonda, 2016)	3	0.859	0.779-0.850	0.861	0.674
Academic Aspects (AA)	(Ali et al., 2016)	5	0.886	0.695-0.822	0.857	0.605
Reputation（R）	(Ali et al., 2016)	3	0.747	0.620-0.762	0.885	0.608
Access(A)	(Ali et al., 2016)	3	0.861	0.792-0.874	0.862	0.675
Student Satisfaction（SS）	(Ali et al., 2016)	3	0.915	0.871-0.909	0.916	0.785
Student Loyalty (SL)	(Ali et al., 2016)	3	0.838	0.775-0.794	0.839	0.635

The mesurement model fit values value in Table 4 are higher than the permissible value, confirming the convergence and discriminant validity. As a result, validity in terms of convergence and discrimination is ensured. These model measures also check the correctness of future structural model estimations and ensure discriminant validity.

Table 4: Goodness of Fit for Measurement Model

Fit Index	Acceptable Criteria	Statistical Values
CMIN/DF	≤ 5.0 (Wheaton et al., 1977)	719.826/231 3.116
GFI	≥ 0.80 (Doll et al., 1994)	0.883
AGFI	≥ 0.80 (Sica & Ghisi, 2007)	0.849
NFI	≥ 0.80 (Wu & Wang, 2006)	0.907
CFI	≥ 0.80 (Bentler, 1990)	0.935
TLI	≥ 0.80 (Sharma et al., 2005)	0.922
RMSEA	≤ 0.10 (Hopwood & Donnellan, 2010)	0.065
Model summary		**In harmony with empirical data**

Remark: CMIN/DF = The ratio of the chi-square value to degree of freedom, GFI = Goodness-of-fit index, AGFI = Adjusted goodness-of-fit index, NFI = Normed fit index, CFI = Comparative fit index, TLI = Tucker-Lewis index and RMSEA = Root mean square error of approximation,
Source: Created by the author.

As shown in Table 5, the value obtained in this study is greater than the acceptable value, which verifies the good fitting effect of the model. In addition, the measurement results of these models consolidate the effectiveness of discrimination and verify the effectiveness of subsequent structural model estimates.

Table 5: Discriminant Validity

	FS	CI	AA	R	A	SS	SL
FS	**0.701**						
CI	0.212	**0.821**					
AA	0.533	0.247	**0.778**				
R	0.464	0.257	0.578	**0.78**			
A	0.457	0.309	0.59	0.617	**0.822**		
SS	0.498	0.316	0.673	0.6	0.686	**0.886**	
SL	0.461	0.279	0.64	0.534	0.554	0.783	**0.797**

Note: The diagonally listed value is the AVE square roots of the variables
Source: Created by the author.

4.3 Structural Equation Model (SEM)

Structural equation modeling (SEM), according to Hair et al. (2010) incorporates measurement errors for the structural coefficients and confirms the proposed model's hypothesized chance connection between variables. The structural equation model's (SEM) goodness-of-fit index is calculated in Table 6. Doll et al. (1994) suggests that GFI should be higher than 0.8; Sica and Ghisi (2007) suggest that AGFI should be higher than 0.8; Wu and Wang (2006) thought that NFI should be higher than 0.8; Bentler (1990) suggested that the CFI should be higher than 0.8; TLI should be higher than 0.8 (Sharma et al., 2005); and RMSEA should be less than 0.1 (Hopwood & Donnellan, 2010).

The model was computed using SPSS AMOS 26, and the fitting indices were accurate. The structural model is a good fit, as shown in figure 3. Acceptable values are presented in Table 6 as CMIN/DF = 4.172, GFI = 0.866, AGFI = 0.811, NFI = 0.886, CFI = 0.910, TLI = 0.883, and RMSEA = 0.080.

Table 6: Goodness of Fit for Structural Model

Index	Acceptable	Statistical Values
CMIN/DF	≤ 5.0 (Wheaton et al., 1977)	888.741/213 4.172
GFI	≥ 0.80 (Doll et al., 1994)	0.866
AGFI	≥ 0.80 (Sica & Ghisi, 2007)	0.811
NFI	≥ 0.80 (Wu & Wang, 2006)	0.886
CFI	≥ 0.80 (Bentler, 1990)	0.910
TLI	≥ 0.80 (Sharma et al., 2005)	0.883
RMSEA	≤ 0.10 (Hopwood & Donnellan, 2010)	0.080
Model summary		**In harmony with empirical data**

Remark: CMIN/DF = The ratio of the chi-square value to degree of freedom, GFI = Goodness-of-fit index, AGFI = Adjusted goodness-of-fit index, NFI = Normed fit index, CFI = Comparative fit index, TLI = Tucker-Lewis index, and RMSEA = Root mean square error of approximation
Source: Constructed by author

4.4 Research Hypothesis Testing Result

Each variable's R2 variance and regression weight are used to determine significance. All the conclusion hypotheses in Table 6 were confirmed, and p = 0.05 was considered significant. Student loyalty has a 0.895 correlation coefficient and is most influenced by student happiness. Student satisfaction was significantly influenced by faculty services (=0.174), campus infrastructure (= 0.099), academic factors (= 0.468), reputation (= 0.523), and access (=0.585). As demonstrated in Table 7, the model depicts the variation in student loyalty and satisfaction.

Table 7: Hypothesis Results of the Structural Equation Modeling

Hypothesis	(β)	t-Value	Result
H1: FS→ SS	0.174	4.348*	Supported
H2: CI → SS	0.099	2.639*	Supported
H3: AA → SS	0.468	10.602*	Supported
H4: R → SS	0.523	9.082*	Supported
H5: A → SS	0.585	10.863*	Supported
H6: SS → SL	0.895	13.925*	Supported

Note: * p<0.05
Source: Created by the author

The results in Table 7 are refined as follows:

H1 established that teacher service is one of the major elements influencing student happiness and explained why the standardized path coefficient value is 0.174. Student satisfaction will increase when students recognize that teacher services are improved (Chaudhary & Dey, 2020). With a common coefficient value of 0.099, the analysis's findings for **H2** confirm that campus infrastructure significantly affects student happiness with the standardized path coefficient value of 0.099. According to Subrahmanyam and Raja Shekhar (2017) research, campus infrastructure substantially influences student happiness. The typical coefficient value for **H3,** which states that academic factors significantly affect student happiness, is 0.468. Students have high expectations for the academic component of services, which is crucial to service quality (Firdaus, 2005). **H4** also demonstrates that one of the major elements influencing students' satisfaction is reputation. The standardized path coefficient value is 0.523. **H5** demonstrates the validity of the idea that students' pleasure is influenced by access and explains why the standardized path coefficient value is 0.585. Therefore, access is a crucial component of all university services from the student's standpoint (Abdullah, 2006). Finally, **H6** indicates the strong impact of student satisfaction on student loyalty and the role of appeal elements on student satisfaction. The standardized path coefficient value is 0.895. Student loyalty positively correlates with student happiness (Subrahmanyam & Raja Shekhar, 2017). Student pleasure has been cited as one of the key variables driving student loyalty in various literary genres (Ryu et al., 2012).

5. Conclusions and Recommendation

5.1 Conclusion and Discussion

In Chongqing, China, this study focuses on the major effects of college service quality on student happiness and loyalty and the variables that affect college service quality. Faculty services (FS), campus infrastructure (CI), academic aspects (AA), reputation (R), access (A), student satisfaction (SS), and student loyalty (SL) were all strongly impacted by these assumptions, which are given as conceptual frameworks. Graduate students from three major Chongqing, China institutions were asked to fill out the questionnaire. Data analysis explores how service quality affects customer happiness and loyalty among students. Confirmatory factor analysis (CFA) assessed the model's validity and dependability. Therefore, the influencing elements of student happiness and student loyalty are examined in this research using the structural equation model (SEM).

Following are the study's findings: Student loyalty is most strongly influenced by first-year student satisfaction. Student happiness is a variable associated with student loyalty, as Chandra et al. (2019) point out. According to Chu and Kim (2011), there was no direct correlation between loyalty and service quality, but when service quality changed customer happiness, loyalty would shift (Fornell, 1992). The second factor that most significantly affects student happiness is access. Students need access to the auxiliary environment more than anything else (Douglas et al., 2008). From the standpoint of the students, one of the most critical elements of any university service is access (Abdullah, 2006). The third is the impact of reputation on

students' satisfaction. Then the degree of impact on student satisfaction from the highest to the lowest is academic aspects, faculty services, and campus infrastructure. The results show that access, reputation, academic aspects, faculty services, and campus infrastructure are positively correlated with student satisfaction, and student satisfaction and student loyalty are also positively correlated. In conclusion, the purpose of this study has been realized. Access, reputation, academic aspects, faculty services, and campus infrastructure are key factors affecting student satisfaction and loyalty.

5.2 Recommendation

The researchers found that among universities in Chongqing, the key factors affecting student satisfaction and loyalty are access, reputation, academic aspects, faculty services, and campus infrastructure. In order to increase the satisfaction and fidelity of students to colleges and universities, it is advised to strengthen the construction of these aspects in the development of the service quality of colleges and universities. Theoretically, even though domestic scholars are conducting more research on the quality of services provided by higher education institutions, studying student loyalty and satisfaction is still in its infancy. The components of the service quality of colleges and universities and the evaluation index of the service quality of higher education have yet to be subject to a common understanding. This study, which is beneficial to advancing the theory of higher education service quality, focuses on the relationship between higher education service quality and students' satisfaction and loyalty from the perspective of "market demand." Second, the variable design of earlier studies is enhanced considering the literature review. Undergraduate student needs and the quality of higher education services are systematically investigated and researched. The results of this research are further enriched to serve as a guide for future research on related topics.

Additionally, in a practical sense, the study's findings can advance the ongoing enhancement of college service quality and raise student loyalty. On the one hand, we can assess the quality of higher education from a macroeconomic industrial perspective, address the administrative evaluation gap, correct the higher education system's recent value orientation drift, and advance the rationalization of service quality in Chinese higher education assessed. At the same time, it is possible to change the connotation of colleges and universities at the micro level, which has a practical impact on raising the level of services provided by various colleges and universities. In conclusion, this study has significant theoretical value for studying higher education service quality. It can serve as a guide and source of recommendations for those in charge of making policy decisions in this field.

5.3 Limitation and Further Study

The fact that this study used graduate students from three institutions in Chongqing as samples mean that the findings may need to accurately represent the state of higher education in the city. The study's outcomes may also vary depending on the schools and grade levels. Other systems that could affect student happiness and loyalty might be the subject of future study. As a result, in the subsequent in-depth investigation and research, the researchers will broaden the investigation field and hypothesis direction and further explore the variables affecting the service quality of colleges and universities that affect students' satisfaction and loyalty from various angles.

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