

Article

Unveiling the International Students' Perspective of Service Quality in Chinese Higher Education Institutions

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Abstract: Foreign students' satisfaction with the service quality of Chinese universities is essential for the sustainable internationalization of China's higher education system. The present study employs a survey research method to bring in the foreign students' perspective of the various aspects of service quality in seven key Chinese universities. Accordingly, 618 valid questionnaires were analyzed using descriptive statistics, principal component analysis (PCA), and analysis of variance (ANOVA). The study findings posit that, although foreign students affirm that teachers are supportive and well qualified, they have concerns about the English proficiency of instructors. Likewise, foreign students were not satisfied with the frequency of formal research meetings with their advisers and the assistance with research techniques and relevant literature sources. Overall, female foreign students were less satisfied than their male counterparts. Moreover, foreign students reported higher satisfaction from teaching services and learning resources, moderate satisfaction from advisory services, and meager satisfaction from the administrative and support services of their respective Chinese institutions. Besides, we found significant differences between sample Chinese universities on various constructs of service quality. Likewise, arts and social sciences students were less satisfied with the service quality of the institution as compared to their natural sciences and engineering counterparts. The policy implications of this research for various stakeholders are discussed.

Keywords: international students; service quality evaluation; perceived satisfaction; sustainable higher education system; China



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1. Introduction

The United Nations Agenda 2030 for sustainable development goals (SDGs) outlines a vision for a better world that relies on cooperation and interdependence. At the heart of these SDGs is the goal for advancing education. This goal primarily emphasizes universal education and suggests that all countries should ensure the provision of inclusive and equitable education and learning opportunities for all. This goal represents the vision and aspirations of the international educational community for the year 2030 [1].

Higher education institutions play an imperative role in the advancement of sustainability and all the important stakeholders expect them to be sustainable organizations [2]. However, in the context of the internationalization of higher education, sustainability can only be achieved if the students' evaluation is favorable regarding the service quality of their host institutions. China has become a rapidly emerging destination for international students. However, Chinese HEIs are considered to be at the early stage of their sustainable development [3]. Since the reform and opening-up policy was adopted in 1980, the remarkable growth of the Chinese economy has attracted the attention of many

countries in terms of economic and trade as well as educational cooperation with China. The internationalization of education in China evolved through different phases in response to trends in globalization to foster cultural, political, and economic ties between China and the world. As per the recent scenario, the international education plan of the Chinese government for the decade 2010–2020 intends to gradually increase the number of international students, and in 2020, the government intends to accept more than 500,000 foreign students, and among those 150,000 are expected to be research students enrolled in graduate and postgraduate programs. To realize these targets, Chinese universities have extensively expedited the enrollment of scholarship and self-financed students, and in 2018, China accepted 492,185 international students, thus becoming the largest host country in Asia [4]. The country of origin-based statistics of inbound students in China is presented in the table below. Table 1 indicates that the majority of international students in China came from Asian countries.

Table 1. Nationwide statistics of international students in China.

Country of Origin	Number of Students
South Korea	50,600
Thailand	28,608
Pakistan	28,023
India	23,198
United States	20,996
Russia	19,239
Indonesia	15,050
Laos	14,645
Japan	14,230
Kazakhstan	11,784
All others	226,373
Total	492,185

Source: Institute of International Education (2019).

After becoming part of the WTO, Chinese HEIs were granted some autonomy to manage their educational affairs to make them competitive with the regional and international seminaries. So, the idea was to establish cooperation with renowned foreign universities to initiate the building of a world-class university with embedded Chinese characteristics. Therefore, Chinese universities adopt the ‘going in’ and ‘going out’ approach to facilitate academic mobility, acquire international resources, and promote and facilitate the sustainable development of science and technology in China. However, Chinese institutions are still new in the international higher education environment and somehow lack global visibility and influence, which indicates that the desired outcome of the internationalization process is not yet fully accomplished [5].

Higher education is progressively emerging as a service provider industry that is exerting a higher pressure on management to meet the needs and expectations of their students by providing efficient academic and support services [6]. The concept of service quality was first proposed by Deming and Edwards [7]. Afterward, by developing a service quality model, Parasuraman, Zeithaml, and Berry [8] provided a relatively new and more pronounced view of service quality. This can be elaborated as the gap between anticipation and the actual experience obtained from the consumption of a particular product. Initially, this concept was used in marketing studies. However, keeping in view its importance in all the service-providing organizations, academics introduced this concept in the area of higher education institutions. Hence, the students are viewed as the primary customers of HEIs and as a means to attract and retain these students; universities shall identify and fulfill their needs and expectations.

In the modern world, tremendous challenges are emerging for higher education providers as competition and public demand for higher education have increased exponentially. In this situation, the provision of quality services can serve as a sustainable

competitive advantage for any institution. Despite the importance of this concept, higher educational institutions lack a single standardized definition of overall academic quality [9]. Hence there is no consensus among researchers on a single best way of defining service quality [10]. Students are the recipient of training imparted by the universities, which makes them the prime stakeholders of an institution [11]. Thus the overall educational quality of an HEI depends upon the prevailing management system at a specific HEI [12]. According to Jancey and Burns [13], experiences of students in engaging with various services delivered by the institution during the years of their studentship demonstrate service quality.

In the context of higher educational institutions, the satisfaction of the students is widely measured through service quality offered by the host institution. There are competing arguments about the relationship between service quality and satisfaction. One group of academics contends that service quality is dependent on the level of customer satisfaction, while others postulate that service quality is an antecedent to satisfaction. However, recent literature on this issue is dominated by the researchers who consider that satisfaction is dependent on the level of service quality, see, e.g., [14–16].

Perceived service quality builds a promising image of the institution in the minds of students that afterward leads them to higher satisfaction. International students that are satisfied with their academic and living arrangements in the host country were more likely to share their foreign university with their colleagues and friends in the home country [17]. Hence, an imperative factor for China to become an attractive higher education destination for international students is to ensure that the existing students are reasonably satisfied with various aspects of academic services of their host Chinese university and their overall living experience in China.

This study aspires to answer the following research questions. How do the current foreign students perceive their study and living experience in Chinese universities? Are they satisfied with the various aspects of teaching, learning, support, and living services at their host institution? Will they recommend China as a higher education destination to their colleagues and friends?

The present study makes use of the survey research method to examine the perception of Masters and PhD degree foreign students regarding the service quality of the host Chinese universities. Thus, 618 usable questionnaires were analyzed from the foreign students of seven key state universities of Wuhan, China. To have a reasonable representation from each category, only foreign students enrolled in natural sciences and engineering and arts and social sciences were included of this survey. International students recorded their response on a five-point Likert scale on the dimensions of teaching services, advisory services, administrative support, learning infrastructure, support infrastructure, and their overall evaluation of the satisfaction from pursuing higher education in China. Excel and SPSS software were mainly used to perform item-based analysis, dimension-based analysis, PCA, and ANOVA to comprehensively examine this research topic.

The contribution of this research is two-fold. First, the extant literature in the context of China employs descriptive analysis to evaluate the overall satisfaction of foreign students from their study experience in China and has largely ignored evaluating student's satisfaction from each aspect of service quality. However, in the backdrop of China's rise as a major player in the global higher education market, it is imperative to explore all the important features of service quality to examine the sustainability of China's international higher education. Therefore, the present study fills this void by devising a comprehensive framework to investigate the quality of teaching services, advisory services, administrative support, learning infrastructure, support infrastructure, and overall satisfaction of foreign students. Second, to ensure the empirical rigor of this study we make use of a bottom-up approach to conduct the item-wise, dimension-wise, and variable-level analysis. In so doing, descriptive analysis, reliability analysis, PCA, and ANOVA techniques were employed to uncover each facet of the international student's satisfaction with the service quality delivery of Chinese universities.

2. Theoretical Underpinnings and Literature Review

2.1. Theoretical Framework

The satisfaction theory has its roots in the discrepancy theory [18] while over the past few years; scholars have used comparative techniques to model the level of satisfaction or dissatisfaction [19]. A variety of theoretical approaches has been adopted to portray the association between positive disconfirmation or satisfaction and negative disconfirmation or dissatisfaction. Oliver [20] asserted that these approaches could be viewed as a modified version of the consistency theories and primarily focuses on the post-usage evaluation of the customers. Consistency theory hypothesizes that, when the actual performance of a product or service does not meet the expectations of the customers, they will experience a certain degree of dissatisfaction [21]. Thus, to communicate their dissatisfaction, customers will either adjust their expectations about the product or service or the perception about the actual user experience. This theoretical paradigm is in line with the mobility theory of satisfaction proposed by Morris and Winter [22].

Several authors have used comparative techniques to elaborate satisfaction over time. The most significant theoretical perspectives to emerge in contemporary studies include assimilation theory, contrast theory, assimilation-contrast theory, expectancy disconfirmation theory, and negativity theory. Assimilation theory mainly evolved from the theory of cognitive dissonance propagated by Festinger [23]. The dissonance theory claimed that customers draw some sort of cognitive comparison between the expected and the realized performance of a product. Thus dissonance or negative disconfirmation will arise if there is a discrepancy between the expected and the actual realized performance. Such post-usage assessment by the customer was presented as the assimilation theory of satisfaction by Anderson and Fornell [24]. They argued that customers tend to avoid dissatisfaction by making adjustments in their perception of a particular product to bring it closer to their expectations. However, assimilation theory has some inherent weaknesses. Firstly, the theory proposes a relationship between expectation and satisfaction but does not elaborate the mechanism through which disconfirmation of an expectation leads to perceived satisfaction or dissatisfaction. Moreover, the theory claimed that customers adjust their expectations about the performance of a product to avoid dissatisfaction. However, if this phenomenon accurately exists, then dissatisfaction would never be an outcome of a post-usage evaluation.

Expectation disconfirmation theory is the most widely recognized form of the discrepancy theory. This theory posits that customers will feel positively disconfirmed or satisfied if the actual performance experience exceeds the expectations. On the contrary, customers will feel negatively disconfirmed or dissatisfied in case the performance outcome fails to meet their priori expectations. Thus, positive disconfirmation results in increased satisfaction, whereas negative disconfirmation has the exact opposite effect. Moreover, if the actual performance matches with the prior expectations this situation will cause zero disconfirmation with no effect on their satisfaction. Kotler et al. [25] argued that the reason for such phenomenon could be attributed to the fact that customers develop their expectations based on the previous experiences, and the comments made by their colleagues and friends. Oliver [20] stated that the actual outcome can surpass expectations in two ways. The level of actual positive performance is within the normal range, indicating that the product or service was a little better than expected, or the actual performance experience is remarkably good, which means that the customer did not expect that their experience would be so delightful.

The expectancy disconfirmation theory has a perceived advantage as it not only explains satisfaction related to the performance of products but also explains satisfaction from service quality. Parker and Matthews [19] further extended this framework and postulated satisfactions as a discrepancy between the actual and the desired outcomes. This, in some way, relates to the value-percept theory which originated because in some cases customers could be satisfied from service for which expectation never exists. Hence, value-percept theory takes satisfaction as an emotional response that is caused by the

cognitive evaluation process, which is comparing the object or experience with one's values rather than expectations [19]. Therefore, the customer requires that there shall be no disparity between their values, needs, and desires and the actual outcome from experiencing a particular service. Figure 1 presents the pictorial representation of the theoretical framework of this study.

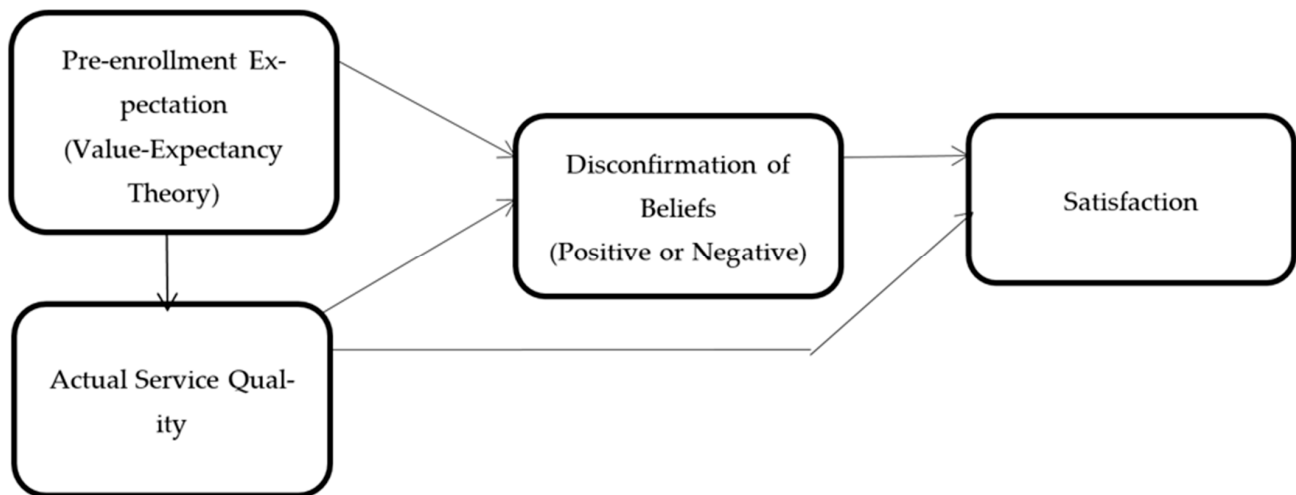


Figure 1. Pictorial representation of the theoretical framework based on Expectation Disconfirmation Theory. Source: Parker and Matthews (2001).

2.2. Literature Review and Hypotheses Development

The students' evaluation of service quality is most frequently investigated in the United Kingdom (UK). The underlying reason may be that the universities in the UK are striving hard to ensure the provision of quality education, support services, and competent lecturers to their students [26–28]. Urban et al. [29] opined that students' views about their experience in higher education are considered very important to examine the quality of education provided by the universities, since students are the main stakeholders and play a vital role in the profitable functioning of higher education institutes.

Williams and Cappuccini-Ansfield [30] argued that students are like customers because they pay tuition fees and universities are the service providers. Thus, students have many expectations from the institution mainly because they pay fees and expect value for their money. Because students are the buyers of the higher education services, their perceived satisfaction is important for the institutions to retain the existing students and to attract new students. So, together with the effective learning processes, increasing students' satisfaction with the institution should be the most preferred goal for every higher educational institution.

The provision of quality services is one of the very factors that influence the satisfaction level of students in a particular higher education institution. It is also considered an imperative dimension to gain a sustainable competitive advantage [31]. Quality aspects and continuous improvement are now among the everyday tasks of higher education management [32]. Because of increasing competition among global educational institutions, they are employing numerous managerial techniques to improve the quality of their services and study programs [33]. Management of academic institutions is of the view that preserving a quality culture and making proactive decisions positively contributes to success [34]. This can be done by introducing a non-formality approach, reducing bureaucracy, eliminating barriers among departments, encouraging flexibility, and appreciating initiative. To preserve a responsive environment and customer-oriented institution is an imperative quality dimension in service providers [35]. Quintal et al. [36] found that, in a sample of Australian universities, a one unit increase in the quality of services resulted on average in a nearly one unit increase in the level of students' satisfaction and trust. The pro-

vision of high-quality services in higher educational institutions is essential and imperative as satisfaction is an outcome of quality services provided by an organization [37].

Overall, research on satisfaction suggests that perceived quality is a critical determinant of perceived satisfaction [38,39]. In addition to the provision of quality services, there are few other dimensions to explain the facets of student satisfaction. For instance, students' satisfaction level is also affected by the attitude of admission staff, the admission process, and the information related to admissions that institutions provide to the potential students through telephone, brochures, and websites [40,41]. Elliott and Shin [42] are of the view that focusing on student's satisfaction from service quality allows the management to re-engineer their institution to adjust to the needs and expectations of the students as well as to introduce a mechanism that provides continuous testing of the effectiveness of fulfillment of their needs. They further posit that student satisfaction is an approach to achieve a sustainable competitive advantage in the higher education industry. In addition to this, Khosravi et al. [43] emphasize that meeting the needs and expectations of the students is an imperative task for higher education providers to gain a sustainable competitive edge over their rivals.

Student satisfaction is a complicated idea that consists of several dimensions. Appleton-Knapp and Krentler [44] pointed out two types of factors that influence student satisfaction level: institutional factors; and personal factors. Institutional factors include quality and swiftness of the teacher's feedback, the teaching style of the academicians, clarity of instructor's expectations as well as quality of his instructions, emphasis on research in an institution, and size of its classrooms. Personal factors that are found to influence students' satisfaction levels are age, gender, temperament, employment, students' average grade point, and preferred learning style [45]. Thus, to make sure that students are satisfied, higher educational institutions shall contemplate both personal and institutional factors [46].

Researches suggest a difference in the academic engagement of native and overseas students mainly because of the factors such as unacquainted pedagogic and research practices, cultural and linguistic adjustment problems [47]. Moreover, Sakurai et al. [48] investigated the factors that promote or hinder the academic engagement of international doctoral students and found that supervisory practices were the most prominent factor that shaped students' level of satisfaction. Moreover, the program in which a student is registered also serves as a factor of their satisfaction, as students of the faculty of arts were less satisfied as compared to the students of other hard disciplines. This evidence asserts that assessing the factors that influence the satisfaction levels of international students is not an easy task as these may vary with a change in the nationality or study program.

Alves and Raposo [17] assert that the provision of quality in all academic aspects by the institution establishes a positive image in students' minds which eventually leads to complete satisfaction and loyalty with the institution. Likewise, Yusoff et al. [49] examined the factors that affect student satisfaction in 1200 students from four private Malaysian higher education institutions. Results of the study showed that a suitable size of the class, responsible and competent faculty, and helpful administrative staff were the main influential factors that determine student satisfaction from their institutions.

Likewise, Gruber et al. [28] examined the students' perceived level of satisfaction about their institution by administering the self-developed questionnaire that covered multiple aspects of the university life of the students. The empirical results indicated that the satisfaction of students was mainly based on a stable relationship between students and the institutional environment. Similarly, Fernandes et al. [50] studied the satisfaction and loyalty of the students enrolled in the United Arab Emirates higher education institutions. A sample of the study consisted of 187 graduates and the required data was collected by administering questionnaires. Their findings indicated that competent instructors that provide quality education were the most significant factor that affects student satisfaction and loyalty to these institutions.

In the context of the UK, Douglas et al. [51] explored the factors explaining the satisfaction and dissatisfaction of the students from the universities. The sample constitutes 350 students from two universities in the United Kingdom. A mixed-method approach was used to analyze the data. Results of the study revealed that quality of teaching and learning plus the learning and administrative support system of the institution directly influence the satisfaction and dissatisfaction of students. Likewise, Kashan [52] observed the factors that significantly affect the satisfaction level of students. The sample of the study was 120 master-level students from a public sector university in Pakistan. The findings of their study revealed that students' satisfaction was mainly influenced by the teaching faculty. Similarly, Butt and Rehman [53] found that the expertise of faculty members was the most influential factor among five analysed factors of student satisfaction.

Reilly et al. [54] observed the experience of American students at the University of Ireland. Data were collected from 150 American students and 149 native students. Results of the study identified that American students had adjustment problems. Furthermore, different levels of academic satisfaction and social support were also found in foreign students enrolled in the long- and short-term programs.

Arambewela and Hall [55] investigated the perceived importance of factors for selecting Australia as a destination for higher education by Asian international students and the level of their satisfaction with these factors. Data were collected through a mail survey and 573 replies were received from international students studying in five different universities in Victoria. Findings of the study reveal that education quality, advanced technology, monetary factors, accommodation expenses, security, status, and prestige of the institution were the significant predictors of international student's satisfaction.

In recent years, China has emerged as a major host destination for international education. However, there is a dearth of empirical literature when it comes to examining the international student's satisfaction with service quality in Chinese universities. Mastoi et al. [56] explored the satisfaction of Chinese students from the service quality of five key Chinese Universities. Their findings posit that, on the whole, Chinese students were satisfied with the teaching and learning environment of their institution. However, they were not satisfied with the quality of administrative support and their interaction with the administrative staff of their respective university.

Ding [57] examined the satisfaction of international students from study and living experience in the universities of Shanghai. Results of their descriptive analysis show that sample students were not satisfied enough with their study and living experience in China which can hamper the sustainable internationalization of China's higher education system. Likewise, Zhong et al. [58] evaluated the expectations of foreign students versus their actual satisfaction from the study in Sino-foreign cooperation institutions. The overall findings conjecture that foreign students were not satisfied enough with their educational experience in China. Besides gender, age, degree level, and tuition fee were the considerable factors that influence the satisfaction of these students.

The synthesis of extant literature shows that educational service quality has been much explored in the context of developed countries. Though the studies in China are mainly based on descriptive evaluation and lacks a comprehensive framework and empirical rigor to investigate each aspect of service quality. Specifically, in the international higher education market the quality of HEIs is measured by the quality of research support offered by the supervisor. However, this aspect of higher education has not been explored in the context of China. Taking expectancy disconfirmation theory as a theoretical foundation of this study, we examine whether the perceived expectations of the students resonate with their actual study and living experience in China. The present research aims to fill this gap by examining the quality of teaching services, advisory services, administrative support, learning infrastructure, support infrastructure, and overall satisfaction of foreign students with their study experience in Chinese universities. Therefore the following hypotheses emerge:

H1. *International students are satisfied with the quality of teaching services of Chinese HEIs.*

H2. *International students are satisfied with the quality of advisory services offered at Chinese HEIs.*

H3. *The quality of administrative services meets the expectations of international students.*

H4. *International students are satisfied with the quality of learning and support infrastructure at their host institution.*

H5. *On the whole, international students are satisfied with the service quality of Chinese HEIs.*

3. Data and Methodology

3.1. Sample Characteristics

The sample of this study consists of the foreign students enrolled in the Master's and PhD programs in 7 Public Universities of Wuhan, China. The rationale behind choosing Wuhan City was that it was considered as an Educational hub of China with the presence of several key state-level universities. Our sample of foreign students included 321 foreign students from Asia, 176 from Africa, and 150 students from Europe & America. This led to a total sample of 647 international students. However, 29 questionnaires were either incomplete or incorrect. Hence, our final sample encompasses 618 valid questionnaires for data analysis. The students' responses were gathered by using a questionnaire from the foreign students of Huazhong University of Science and Technology, Zhongnan University of Economics and Law, Huazhong Agriculture University, Central China Normal University, Wuhan University, Wuhan University of Science and Technology, and the China University of Geosciences. All these universities are part of project 211 which aims at developing 100 key Chinese universities of the 21st century hence receive preferential treatment and financial support from the Ministry of Education, China. All the male or female foreign students enrolled in Master's and PhD programs were made part of the sample. The researcher visited the sample universities to self-administer the questionnaire. The respondents were requested to fill in the questionnaire carefully. The participation of foreign students in the survey was completely anonymous and voluntary. A detailed description of the universities along with the sample size of foreign students is given in Table 2.

Table 2. Sample Characteristics.

Universities	Sample of the Foreign Students		
	Male in Sample	Female in Sample	No. of Students
Huazhong University of Science and Technology	83	42	125
Zhongnan University of Economics and Law	52	34	86
Huazhong Agriculture University	72	20	92
Central China Normal University	41	14	55
Wuhan University	36	18	54
Wuhan University of Science and Technology	66	29	95
China University of Geosciences	81	30	111
Total	431	187	618

The survey research method was used to conduct this research. Survey research provides the highest level of generalizability to represent a larger population. Because of possessing a vast number of people who participate in a survey, the collected data has a better comprehension of the relative traits of the general population of the study. Due to the higher representative sample size gathered through the survey research method, it often becomes convenient to report statistically robust results than by using other data collection procedures. The analysis of multiple variables can be effectively performed by the application of survey research. On top of this, for scientific research studies, the survey

method is ideal due to the provision of a standardized stimulus to all participants in the study [59].

Table 3 entails statistics of various demographic attributes of the sample respondents to support a better understanding of the data in this study. The frequency and percentages of the demographic factors, such as gender, age, study major, study year, degree level, and medium of instruction, of the foreign students are presented below.

Table 3. Demographic characteristics of respondents.

Demographic Factors	Frequency	Percent
Gender		
Male	431	69.7
Female	187	30.3
Total	618	100.0
Age (Years)		
20–25	153	24.8
25–30	295	47.7
30–35	139	22.5
35–45	31	5.0
Total	618	100.0
Study Major		
Natural Sciences & Engineering	295	47.7
Arts & Social Sciences	323	52.3
Total	618	100.0
Study Year		
1st Year	188	30.4
2nd Year	255	41.3
Final Year	175	28.3
Total	618	100.0
Degree Level		
Master	338	54.7
PhD	280	45.3
Total	618	100.0
Medium of Instruction		
English	463	74.9
Chinese	155	25.1
Total	618	100.0

3.2. Research Instrument

The questionnaire was organized to investigate various service quality aspects of sample Chinese universities. This section covered foreign student's perspectives on the service quality of their host higher education institute from five key dimensions. The last section examines the overall satisfaction of foreign students by pursuing their higher education from Chinese HEIs. The detail on the construction of each dimension is outlined below.

1. **Teaching services:** This dimension includes seven items to explore the relationship between teacher and foreign student, teachers' competency [60], teaching quality, faculty's helping attitude and teachers' willingness to provide support and guidance, availability of required learning material [29,52], the language barrier in communication, and students' feedback about the relevance of offered courses with the field of study (Douglas, et al., 2006).
2. **Advisory services:** This particularly indicates the help and support provided by the supervisor. This dimension contains twelve items mainly related to examine the frequency of meetings and discussion sittings with supervisor, ease in approaching supervisor when needed [54,59], proper guidance and help on literature resources and research techniques, finalizing the research plan, and provision of prompt feedback on students' work.

3. **Administrative support:** This dimension encompasses two basic items about the friendly and supportive attitude of administrative staff and provision of clear and timely information [53,60].
4. **Learning infrastructure:** This consists of six items about foreign students' academic experience such as questions about the learning environment and classroom situations, library resources, availability of online resources, access to Lab and IT facilities [51,55], and availability of necessary equipment and internship programs.
5. **Support infrastructure:** This indicates basic services provided by the university. This dimension includes eight items such as questions about accommodation facilities, medical facilities, transportation services, catering [56,57], and freedom in performing religious obligations and sports facilities.
6. **Overall satisfaction:** This is the last dimension that includes seven items to seek general information about the overall satisfaction level of foreign students from their decision to opt for China as their study destination. These items were based on external situations such as students' views that the learning environment of the university meets their expectations [61], they felt socially accepted by the home students, they positively considered their decision to come to China, and they will recommend China and their university to friends and colleagues [62].

Validity and Reliability of Research Instrument

The principal components analysis technique was used to extract eigenvalues and the variance explained by each component. A component can only qualify its place if the Eigenvalue is greater than 1. Table 4 shows that Eigenvalue is higher than 1 in all cases, therefore, all the service quality dimensions explain a unique aspect of the educational and support services provided by their host Chinese HEI hence confirms the validity of our research instrument. Moreover, the first component explained 31.4% of the variance in service quality. Similarly, the 2nd and 3rd dimensions determined 9.5% and 4.9% of the variation in service quality. While the 5th and 6th components explained 4.2% and 3.1% of the variance in service quality. In totality, all six components explained about 58% of the variance in service quality. Additionally, KMO statistics is a measure of sampling adequacy. The cut-off point for this statistic is 0.50. Thus, a value of 0.94 reflects that our sample is quite adequate.

Table 4. Principal components.

Components	Eigenvalues	% of Variance Explained	KMO Statistic
1	12.892	31.4	0.94
2	3.894	9.5	
3	2.001	4.9	
4	1.787	4.4	
5	1.717	4.2	
6	1.291	3.1	

Table 5 presents the validity statistics of each research dimension as well as the overall reliability of the research instrument using Cronbach's alpha. The overall reliability alpha for all the service quality dimensions and overall satisfaction is 0.94. This posits that 94% of the variance explained by service quality dimensions is true variance. Thus, it authenticates the reliability and internal consistency of our research instrument.

Table 5. Reliability Statistics.

Serial#	Research Dimensions	Reliability Statistic (Alpha)
1	Teaching Services	0.86
2	Advisory Services	0.95
3	Administrative Support	0.82
4	Learning Infrastructure	0.83
5	Support Infrastructure	0.55
6	Overall Satisfaction	0.86
	Overall Reliability	0.94

3.3. Empirical Strategy

For an in-depth understanding, we conduct item-wise, dimension-wise, and variable level analyses of student responses. Considering the nature of data descriptive statistics and figures are used to elaborate the difference between different categories. Principal component analysis (PCA) is a multivariate statistical approach used to reduce the data with several dimensions to few representative variables which provide sufficient information about the entire as was available in the larger data set [63]. Considering that our survey data cover various aspects of service quality, the use of PCA helps us in transforming a bigger set of variables into a smaller set of variables without much loss of information.

Furthermore, an analysis of variance (ANOVA) is employed to observe whether there is any significant difference between various groups of variables. Hence, the use of ANOVA helps us to ascertain whether there are significant differences between service quality dimensions and satisfaction in our sample universities.

4. Data Analysis and Interpretation

Data were analyzed through Microsoft Excel and SPSS 20 software package. Descriptive statistics, principal component analysis (PCA), and ANOVA were used for analysis to evaluate foreign students' perceived level of satisfaction with the service quality of Chinese universities.

4.1. Statement-Wise Analysis of Service Quality and Perceived Satisfaction

Table 6 presents the gender-wise questionnaire analysis of service quality and satisfaction statements. Along with the arithmetic mean and standard deviation, a t-statistic is also provided to check whether a significant difference exists between the male and female student's responses on each statement of service quality and perceived satisfaction.

Table 6. Questionnaire analysis: difference in the satisfaction level of foreign students by gender.

Sr. No.	Statements	Males (N = 431)		Females (N = 187)	
		Mean	SD	Mean	SD
1.	Teachers are competent and well qualified	3.72	1.001	3.76	0.938
2.	Teaching staff would be willing to provide individual attention to students	3.65	0.958	3.53	1.099
3.	Course instructors are easily available to provide guidance and support	3.48	1.041	3.51	0.997
4.	Teaching staff have friendly and supportive attitude towards the foreign students	3.79	0.980	3.68	0.946
5.	The English speaking and listening skills of the teachers are good	3.17	1.128	3.10	1.117
6.	Sufficient learning material and resources were provided to meet the need of the courses	3.61	0.998	3.47	1.059
7.	The courses offered in my program fulfill the requirements of my field of study	3.61	1.021	3.41	1.095
8.	I have a clear schedule with my supervisor regarding the frequency of meetings to discuss research progress	3.63	1.046	3.26	1.196
9.	My supervisor arranges formal progress meetings several times in a month	3.49	1.153	3.21	1.251
10.	I am satisfied with the frequency of these formal meetings	3.53	1.080	3.28	1.088
11.	I can contact my supervisor easily	3.85	.998	3.61	1.032
12.	My supervisor gave me proper guidance on literature sources	3.65	1.064	3.34	1.127
13.	My supervisor provided me the necessary help to design the plan of research work	3.65	1.038	3.37	1.159
14.	My supervisor guided me on research techniques	3.60	1.047	3.25	1.143

Table 6. Cont.

Sr. No.	Statements	Males (N = 431)		Females (N = 187)	
		Mean	SD	Mean	SD
15.	My supervisor monitors my progress on regular basis	3.57	1.031	3.24	1.108
16.	My supervisor gives prompt feedback on work as soon as it is produced	3.70	0.969	3.49	1.133
17.	The feedback provided by my supervisor is useful and effective	3.77	0.953	3.55	1.038
18.	My supervisor guides me when things go wrong	3.74	0.944	3.50	1.075
19.	My supervisor is sympathetic and supportive of my needs	3.82	0.919	3.54	1.048
20.	The administrative staff has a friendly and supportive attitude	3.59	1.070	3.43	1.052
21.	The staff provides clear and timely information about the events and services	3.58	1.067	3.45	1.103
22.	Class rooms are well equipped and provide a conducive learning environment	3.99	0.761	3.76	0.934
23.	Library resources are adequate to serve my educational and research needs	3.85	0.952	3.60	1.034
24.	The library has sufficient access to online resources to fulfill my research needs	3.81	0.962	3.64	1.050
25.	Lab and IT facilities are accessible and up-to-date	3.71	0.965	3.52	0.980
26.	Necessary equipment and materials are available to accomplish my research needs	3.76	0.912	3.54	1.017
27.	My school provides enough internship and placement opportunities	3.22	1.133	3.14	1.180
28.	Accommodation facilities are adequate to satisfy my living requirements	3.74	.997	3.55	1.048
29.	Medical facilities are good enough to serve my needs	3.42	1.064	3.27	1.064
30.	I am satisfied with the transportation services provided by my university	3.63	0.958	3.53	0.935
31.	The menu in the canteen is suitable for me	3.17	1.185	3.17	1.187
32.	The quality of food is good	3.29	1.059	3.11	1.092
33.	I think that I am moving positively towards the accomplishment of my academic goals	3.88	0.805	3.72	0.790
34.	The learning environment of the university meets my expectations	3.75	0.914	3.59	0.982
35.	I feel that I am socially accepted by the Chinese people	3.67	0.993	3.52	0.969
36.	I think I made the right decision to study in China	3.85	0.907	3.64	0.920
37.	I will recommend China as study destination to my colleagues and friends	3.68	0.979	3.59	0.954
38.	I will recommend my university to my colleagues and friends	3.68	0.992	3.51	0.969
39.	I will continue to keep in touch with my school after the completion of studies	3.85	0.982	3.58	0.903

The item analysis of teaching services reveals that on the whole female foreign students have a lower satisfaction from teaching services as compare to their male counterparts. Besides, foreign students highly agree with the statement that the teaching staff of their host Chinese university has a supportive and friendly attitude. Moreover, foreign students have a higher level of agreement on the statements that teachers are competent and well qualified and are willing to offer individual attention to the students. However, Figure 2 depicts that the statements that course instructors are easily available for guidance and English speaking skills of teachers are good have the lowest mean score which is in line with reflects that availability and English speaking skills of the sample universities can be improved to enhance the teaching and learning experience of foreign students. These results support H1 and are in line with Wen et al. [31].

Teaching Services

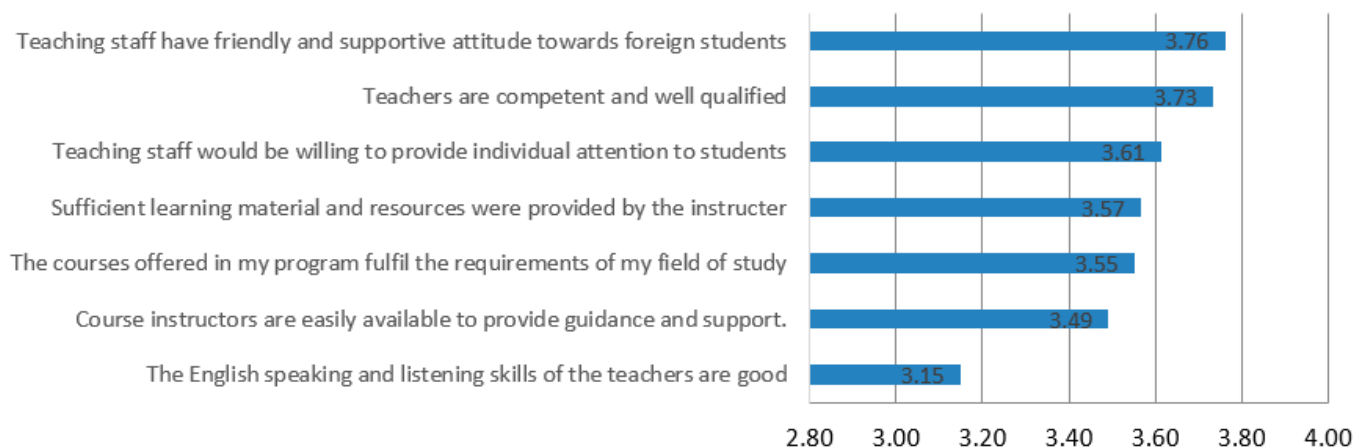


Figure 2. Mean score of the statements about teaching services. Source: Authors (2021).

The advisory services are of prime importance to the success of a postgraduate program. The mean values presented in Table 6 reveals significant differences in the advisory services between male and female foreign students as male students exhibit a significantly higher satisfaction from advisory services of their host institution. These findings are consistent with Zhong et al. [58] that there exist significant gender-based differences in the satisfaction of international students from the service quality of Chinese HEIs. Figure 3 indicates the mean score of the statements in descending order. On the whole, foreign students strongly agree with the statement that they can contact their supervisor easily and that their supervisor is supportive of their needs. Yet have a moderate mean score on the statements that their supervisor guides them when things go wrong, and that their advisor gives them prompt feedback. Meanwhile, the statements that supervisors monitor the progress of foreign students on a regular basis and that supervisors arrange formal progress meetings, as well as the satisfaction of foreign students with the frequency of these formal meetings, have the lowest mean score which reveals that the overall majority of research advisors are not giving proper time to their foreign students, which can significantly reduce the quality of their research project. Sakurai et al. [48] also propose that fewer meetings with research advisors leads to reduced satisfaction of the students. These results reject our second hypothesis hence sample Chinese universities should reduce workload from the research advisors and shall take such measures which can ensure that foreign students are getting enough guidance and support from their supervisors at all stages of their research project.

Advisory Services

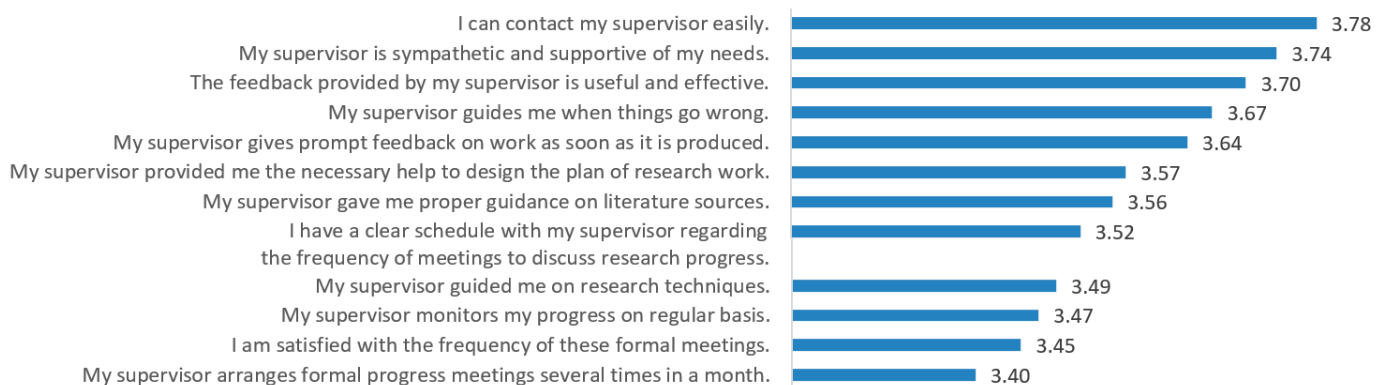


Figure 3. Mean score of statements about satisfaction from advisory services. Source: Authors (2021).

Overall, the foreign students have a higher mean score on the questions that concern classrooms being well equipped and library and lab resources sufficient to meet their research needs, which shows that the learning infrastructure of Chinese universities accepting foreign students is quite developed as they are getting proper attention and financial support from the government. Yet, students have a lower mean score on the statement that “My school provides enough internship and placement opportunities” and the reason for this is that foreign students usually face language barriers while working with Chinese corporations. Moreover, although foreign students were quite satisfied with accommodation and transportation facilities, they were relatively less satisfied with the medical and canteen facilities, probably due to the differences in the treatment procedures and cuisine between their home country and China. On the whole, these empirical outcomes support the fourth hypothesis of this research, in that foreign students are satisfied with the quality of learning and support infrastructure of their host Chinese HEIs.

As for the overall satisfaction of foreign students, male and female students have a mean value of 3.88 and 3.72 on the statement that “I think I am positively moving towards the fulfillment of my academic goals” revealing that overall, international students are

quite satisfied with their higher education from China. Though, female respondents have a significantly lower score on the statement that “I think I have made the right decision to study in China” and the t-value is also statistically significant. Moreover, foreign students have a moderate agreement on the questions that they will recommend china and their university as a study destination to their colleagues and friends. Yet, male students have a significantly higher agreement with the statement that “I will keep in touch with my school after the completion of my degree”.

4.2. Category-Wise Analysis of Foreign Students Satisfaction from the Quality of Educational Services Provided by Chinese Universities

In this section, major and degree level based descriptive analysis is conducted to reveal the aspects of service quality that need further improvement and to allow a comparison between different categories of international students.

Table 7 presents the items with a high percentage of satisfaction of the student responses. 75% of the students majoring in natural sciences and engineering agreed that their course teachers are competent and well qualified yet 65% of the arts and social sciences students favored this statement. Similarly, the majority of the foreign students agreed that the teaching staff has a friendly and favorable attitude towards the foreign students as 72% of the foreign students favored this statement. However, there is a significant difference between the major categories on the statement that students have a clear schedule with their supervisors regarding the frequency of meetings to discuss their research progress. As 68% of the natural sciences and engineering students agreed to this statement, only 52% of arts and social sciences students approved. This shows that natural sciences and engineering are getting better advisory services and support as they can take discuss their research work with their supervisor more frequently and regularly as compared to the art and social sciences majors. These findings resonate with Zhong et al. [58] that demographic factors considerably influence the satisfaction level of foreign students in Chinese HEIs.

On the whole, 71% of the foreign students agreed that the accommodation provided by the institution meets their living requirements. Moreover, 80% of the respondents stated that classrooms provide a favorable learning environment and are well equipped. This evidence suggests that Chinese universities accepting international students have better classroom facilities. Yet, the score on the statements that administrative staff have a positive and supportive attitude towards the foreigners is quite average and shows room for improvement, which negates our third hypothesis. These outcomes are in line with Mastoi et al. [56], in that students are not satisfied enough with their interaction with the administrative and support staff in Chinese universities. Overall, 70% of the international students agreed that the learning environment of the university meets their expectations.

Table 7. Study major-wise description of the factors with high level of satisfaction.

Statement	Natural Sciences & Engineering	Art and Social Sciences	Overall
Teachers are competent and well qualified	75%	65%	70%
Teaching staff has friendly and supportive attitude towards the foreign students	73%	71%	72%
I have a clear schedule with my supervisor regarding the frequency of meetings to discuss research progress	68%	52%	60%
Accommodation facilities are adequate to satisfy my living requirements	72%	69%	71%

Table 7. Cont.

Statement	Natural Sciences & Engineering	Art and Social Sciences	Overall
Classrooms are well equipped and provide a conducive learning environment	84%	77%	80%
The administrative staff has a friendly and supportive attitude	66%	62%	64%
The learning environment of the university meets my expectations	74%	68%	70%

Table 8 demonstrates the factors with which international students were relatively less satisfied. Merely 47% of the international were in agreement with the statement that the English language skills of the teachers are good. The reason for this is perhaps that the entire education system in China was designed in the native language. Therefore even if the teachers are competent and better qualified in their fields still they may not be able to communicate that effectively as they teach the Chinese students. Hence, the HR office shall make sure that sufficient teachers are available to teach those international students whose medium of instruction is English. As with the advisory services, 64% of the natural sciences and engineering students agreed that their supervisor monitors their progress regularly while only 46% of the arts and social sciences students approved this statement. Similarly, 67% of the students belonging to the natural sciences and engineering category agreed to the statement that their supervisor helped them to develop the research plan yet only 53% of the arts and social sciences students responded in affirmative. This can be attributed to the fact that natural sciences and engineering students have to work in labs, therefore, they have more interaction with their supervisor yet the students of the social sciences have an entirely different type of research work usually have lesser chances to interact with their supervisor.

Table 8. Major-wise description of the factors with a low level of satisfaction.

Statement	Natural Sciences & Engineering	Art and Social Sciences	Overall
The English speaking and listening skills of the teachers are good	47%	47%	47%
My supervisor monitors my progress on regular basis	64%	46%	55%
My supervisor provided me the necessary help to design the plan of research work	67%	53%	60%
My school provides enough internship and placement opportunities	52%	38%	45%
The menu in the canteen is suitable for me	50%	47%	48%
I will recommend my university to my colleagues and friends	71%	55%	63%

Only 45% of the foreign students affirmed that their school provides enough placement or internship opportunities and the reason is perhaps that companies in China usually use Chinese as the conversation medium, therefore, it is very hard for the foreign students with less Chinese proficiency to find internships. Similarly, only 48% of the respondents stated that they are the menu in the canteen is suitable for them. This makes sense as the Chinese cuisine may be quite different from their native food culture thus it could be very hard for some of the foreigners to adapt to the new food choices. Moreover, 71% of the natural sciences category agreed that they will recommend their university to their colleagues and friend however only 55% of the social sciences category favored this statement. In the

nutshell, besides the fact, the number of international students is increasing in Chinese HEIs, but there is still sufficient room for improvement in several areas to maximize the satisfaction level of the international students. In line with the findings of Hill et al. [29] and Sakurai et al. [48], there exist larger differences in the satisfaction level of the students concerning their field of study and the natural sciences and engineering students are relatively more satisfied than their arts and social sciences counterparts.

4.3. Principal Component Analysis (PCA) of Service Quality Dimension and Perceived Satisfaction

Table 9 reports the PCA of the service quality constructs and the overall satisfaction of foreign students. It is worth mentioning that if a particular item has a factor loading of less than 0.3 it shows that the item does not explain much variance in the dimension to which it belongs. The statement that the teaching staff is willing to provide individual attention to the students has the highest factor loading of 0.58 in the teaching services dimension which shows that Chinese instructors are considerate about the problems of foreign students. Similarly, the statements that offered courses offered to fulfill the needs of the program and sufficient learning material is provided by the instructor having a factor score of 0.57 and 0.55, respectively, which denote that foreign students place significant importance on the courses taught and the provision of learning material. While the statement that the English speaking skills of the instructors are good have the lowest factor loading which indicates the area for sample universities that require considerable improvement. Moreover, the results of Bartlett's test of sphericity suggests that results of the analysis are quite robust.

Table 9. Principal component analysis of service quality dimensions and the resulting level of satisfaction.

Services/Items	Factor Loadings
1. Teaching Services	
Teaching staff would be willing to provide individual attention to students	0.58
The courses offered in my program fulfill the requirements of my field of study	0.57
Sufficient learning material and resources were provided to meet the need of the courses	0.55
Teachers are competent and well qualified	0.52
Course instructors are easily available to provide guidance and support	0.53
Teaching staff has friendly and supportive attitude towards the foreign students	0.51
The English speaking and listening skills of the teachers are good.	0.51
2. Advisory Services	
My supervisor provided me the necessary help to design the plan of research work	0.73
My supervisor guided me on research techniques	0.72
My supervisor monitors my progress on regular basis	0.69
The feedback provided by my supervisor is useful and effective	0.69
My supervisor gave me proper guidance on literature sources	0.69
My supervisor gives prompt feedback on work as soon as it is produced	0.67
I am satisfied with the frequency of these formal meetings	0.66
My supervisor guides me when things go wrong	0.66
I have a clear schedule with my supervisor regarding the frequency of meetings to discuss research progress	0.66
My supervisor arranges formal progress meetings several times in a month	0.63
My supervisor is sympathetic and supportive of my needs.	0.62
I can contact my supervisor easily	0.53

Table 9. Cont.

Services/Items	Factor Loadings
3. Administrative Support	
The staff provides clear and timely information about the events and services	0.49
The administrative staff has a friendly and supportive attitude	0.45
4. Learning Infrastructure	
Necessary equipment and materials are available to accomplish my research needs	0.61
Library resources are adequate to serve my educational and research needs	0.55
The library has sufficient access to online resources to fulfill my research needs	0.55
Classrooms are well equipped and provide a conducive learning environment	0.52
Lab and IT facilities are accessible and up-to-date	0.52
My school provides enough internship and placement opportunities	0.47
5. Support Infrastructure	
Medical facilities are good enough to serve my needs.	0.51
Accommodation facilities are adequate to satisfy my living requirements	0.49
I am satisfied with the transportation services provided by my university	0.41
The quality of food is good	0.40
The menu in the canteen is suitable for me	0.37
I have freedom to perform collective religious obligations in my university	0.32
I am satisfied with the sports facilities within my university	0.32
6. Overall Satisfaction	
The learning environment of the university meets my expectations	0.64
I will recommend my university to my colleagues and friends	0.64
I will recommend China as a study destination to my colleagues and friends	0.57
I think that I am moving positively towards the accomplishment of my academic goals	0.55
I think I made the right decision to study in China	0.54
I will continue to keep in touch with my school after the completion of studies	0.51
I feel that I am socially accepted by the Chinese people	0.40

Bartlett's Test of Sphericity: 13,753, $df = 820$, $p < 0.001$.

4.4. Dimension-Wise Analysis of Service Quality Constructs and Overall Satisfaction

In the dimension-based analysis, the service quality constructs are ranked based on their respective mean score. Besides, we provide a university-wise ranking of each service quality dimension to indicate the high performing and low performing institutions based on the foreign student's perception of service quality. Subsequently, ANOVA is performed to examine whether or not a significant difference exists between the service quality aspects of sample Chinese HEIs.

Figure 4 shows the mean score of service quality dimensions in descending order. Teaching services have the highest mean score of 4.14, which shows that foreign students are satisfied with various aspects of teaching services of their host HEIs. Learning infrastructure comes next with a mean score of 3.67 which is attributed that Chinese universities are quite up-to-date in terms of learning infrastructure because of substantial funding from the state government. Moreover, advisory services are ranked 3rd with a mean score of 3.58. This value should be a bit higher and indicate room for improvement. Yet, administrative support and support have the lowest rank with a mean value of 3.54 and 3.40 respectively which implies that sample Chinese HEIs shall take some measures to improve their administrative and support services. The mean score for overall satisfaction is 3.17, which is quite low. This outcome rejects our final hypothesis that on the whole foreign students are satisfied with their study and living experience in China. Thus, an

overall improvement in the service quality variables will ultimately increase the foreign student's level of satisfaction.

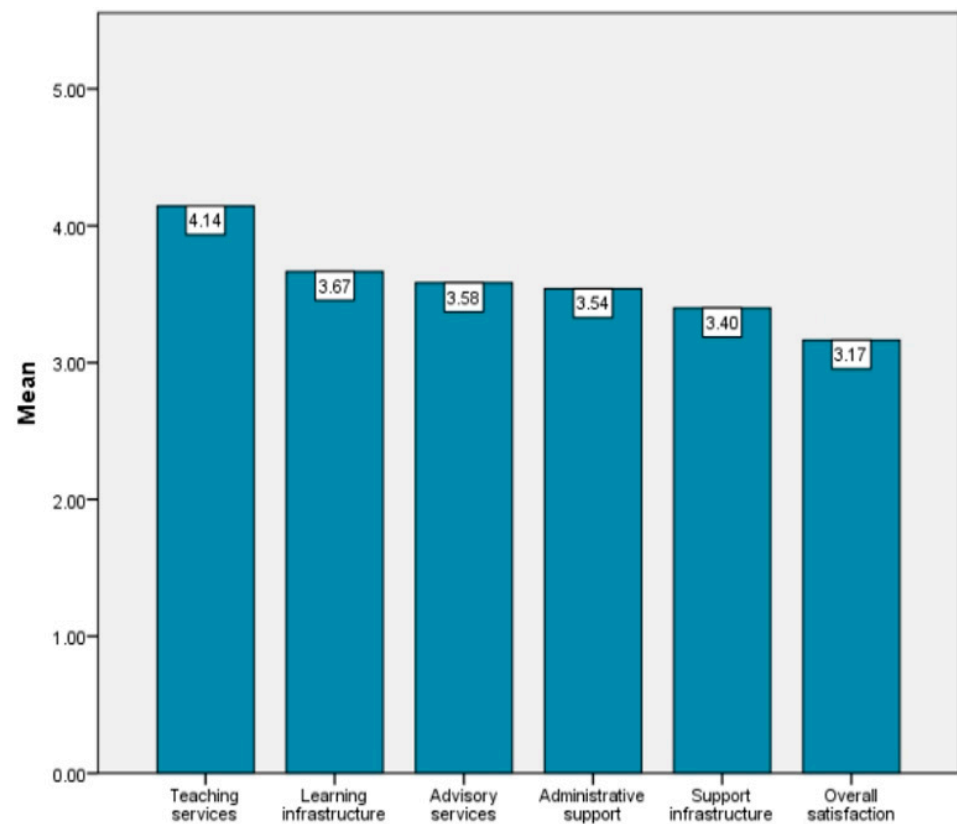


Figure 4. Ranking of service quality dimensions based on students' responses. Source: Authors (2021).

Analysis of variance indicates whether there are significant differences in a particular attribute between different groups. Table 10 reports the university-wise ANOVA of the service quality constructs. F-statistics and corresponding significance levels posit that there is no significant difference between the quality of teaching services provided by Chinese HEIs. In contrast, there are significant differences between the advisory services and the level of supervisory support provided to the foreign students of different universities. Similarly, there are significant university-wide differences in the level of administrative support provided to foreign students. Moreover, learning infrastructure and support infrastructure dimensions of service quality have the largest F-statistic and are significant at 1%. These results indicate that universities significantly differ in terms of the quality and type of learning and support infrastructure rendered to the foreign students. These empirical outcomes are consistent with Ding [57], in that there are significant differences in the service quality delivery in Chinese HEIs. Yet the empirical results for the satisfaction of the students are only significant at 5% which postulates that there is a considerable difference in the satisfaction level of foreign students with the service quality of their host Chinese HEIs.

Table 10. Dimension-wise ANOVA of service quality constructs by taking university as the category variable.

Service Quality Dimensions		Sum of Squares	df	Mean Square	F	Sig.
Teaching Services	Between Groups	7.341	6	1.223	1.721	0.114
	Within Groups	434.416	611	0.711		
	Total	441.757	617			
Advisory Services	Between Groups	10.247	6	1.708	2.490	0.022
	Within Groups	419.107	611	0.686		
	Total	429.354	617			
Administrative Support	Between Groups	14.314	6	2.386	2.492	0.022
	Within Groups	584.965	611	0.957		
	Total	599.279	617			
Learning Infrastructure	Between Groups	11.895	6	1.983	3.973	0.001
	Within Groups	304.854	611	0.499		
	Total	316.749	617			
Support Infrastructure	Between Groups	8.595	6	1.433	3.011	0.007
	Within Groups	290.726	611	0.476		
	Total	299.321	617			
Overall Satisfaction	Between Groups	4.769	6	0.795	2.134	0.048
	Within Groups	227.617	611	0.373		
	Total	232.386	617			

5. Conclusions and Policy Implications

As a consequence of theoretical and pragmatic investigation of foreign students' evaluation of the service quality of Chinese universities, the study findings lead to several conclusions. These outcomes not only depict the current state of international higher education programs in Chinese universities, but also warrant attention from the respective stakeholders to upgrade the under-developed areas of their service quality, to transform these universities into sustainable knowledge cultivation hubs of international standing.

Against the backdrop of massive financial and policy support from the Chinese government for the sustainable internationalization of China's higher education system, it is imperative that foreign students are satisfied with the service quality offered by their host institution. Thus, we adopt the bottom-up statistical approach to address this research question. As with the academic services of Chinese HEIs, foreign students exhibit high scores on the statements that teachers are competent and qualified, and that they offer a friendly and supportive attitude to foreign students. In contrast, the statement that the English language skills of the lecturers are appropriate showed the lowest score, which must be a matter of concern for the Chinese HEIs if they aim to optimize the teaching and learning experience of these international students. Moreover, foreign students agreed that their research advisors provide them timely feedback and are supportive of their needs. Yet, mixed sentiments were reported on the statement that their advisors arrange enough formal meetings to discuss the progress of their research project. Moreover, female foreign students have a statistically lower score than their male counterparts on such statements as their satisfaction with the frequency of formal research meetings with their supervisor and that they can contact their supervisor easily. Hence, necessitating a concrete effort from Chinese HEIs to not only increase the overall advisory support towards foreign students, but also to address the concerns of female students regarding the access and research advice from their supervisor.

Besides, it is important to examine the perceived satisfaction of international students based on their study major. The description of the statement analysis posits that students belonging to the natural sciences and engineering category have a higher score on various aspects of academic and support services of their institution than arts and social sciences students. These outcomes have policy implications and suggest that, in China, natural sciences and engineering disciplines have progressed well in terms of offering superior services to their students. However, there is considerable room for improvement in the

arts and social sciences disciplines to optimize the learning and support infrastructure to maximize the satisfaction of international students.

The PCA analysis highlights that teaching services, advisory services, administrative support, learning infrastructure, and support infrastructure are the key service quality dimensions of Chinese universities. Moreover, the reliability analysis reveals a Cronbach's alpha of 0.94 which supports the validity and reliability of the research instrument used to measure satisfaction. Together, all the six dimensions of service quality explain about 58% of the variance in the satisfaction of international students. It reflects that perhaps there are some personal level motivational and psychological factors that also influence students' satisfaction besides the service quality of their host institution.

Nevertheless, the ranking of service quality constructs based on the response score of students reveals that in general international students are highly satisfied with the teaching services of their Chinese HEIs. Likewise, learning infrastructure was ranked 2nd with a mean score of 3.67. While advisory services were ranked 3rd in terms of students' satisfaction from the supervision and support offered by their research advisor. These results suggest that Chinese universities have taken a step forward to improve the overall academic experience of their international students, yet there is still considerable room for further advancement in teaching and research quality for these students. Administrative support and support infrastructure showed the lowest rank in terms of service quality, which entails that on the whole international students face problems while dealing with the administrative matters with the staff and lack the necessary social support to get adjusted to a new environment. Thus, indicate the areas which deserve special attention from the administration of Chinese universities for sustainable internationalization of their institution. Nevertheless, the score of the overall satisfaction dimension is 3.17 on the scale of 5, which is quite low and could be upgraded only if host institutions take a holistic approach to enhance their service quality rather than focusing on one or two aspects.

Furthermore, the ANOVA based on the university as a category variable resulted in a statistically insignificant difference in the quality of teaching services of sample Chinese universities. However, we found statistically significant differences between the rest of the service quality dimensions such as advisory service, administrative support, learning infrastructure, support infrastructure, and overall satisfaction of international students across the sample universities. These findings posit that, although all these HEIs belong to the 211 project, there exists a significant difference in the quality of academic and support services across Chinese universities. Whereas some universities have leapfrogged in the provision of quality services for foreign students, others lag behind and require concerted policy efforts to upgrade their academic programs for international students. Hence, this research provides a comprehensive empirical perspective on how the Chinese HEIs are moving forward to attain sustainable internationalization of the higher education system. However, our study was limited to international students studying in Wuhan. Future researches in this domain can take a diverse sample from various Chinese cities or provinces to compare the satisfaction of international students. Furthermore, studies can also extend this line of research by conducting a comparative analysis of foreign students' satisfaction studying in Western countries and China. Besides, it will be interesting to account for the impact of student's learning styles in influencing their perceived satisfaction [64,65] and the role of foreign students in promoting Chinese FDI especially in Belt and Road countries [46].

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