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Factors Impacting Student Satisfaction from Higher Vocational Education in Shanghai, China

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Abstract

Purpose: The study investigates the influence of five independent variables (Social et al. perceived service quality, Perception of University Sustainable Practices, Price Fairness, and Built Environment) on one dependent variable (Student Satisfaction). Additionally, it aims to identify significant differences between variables. **Research design, data, and methodology:** The research employed the Index of Item-Objective Congruence (IOC) for validity and a Cronbach's Alpha in a pilot test (n=15) for reliability. 80 valid responses from students at Shanghai Urban Construction Vocational College (SUCC) were analyzed by multiple linear regression to verify the significant relationship between variables. Following this, 30 students underwent a 12-week Strategic Plan (SP). Afterward, the quantitative results from the post-strategic Plan and pre-strategic Plan were analyzed in the paired-sample t-test for comparison. **Results:** In multiple linear regression, the study revealed that social identification, student-perceived service quality, perception of university sustainable practices, price fairness, and built environment impacted student satisfaction. Finally, the results from the paired-sample t-test for comparison demonstrated significant differences in student satisfaction between the post-strategic Plan and pre-strategic Plan stages. **Conclusions:** This research endeavors to foster student satisfaction by cultivating their social identification, student-perceived service quality, perception of university sustainable practices, perception of price fairness, built environment, and student satisfaction on higher vocational education in Shanghai, China.

Keywords: Student Satisfaction, Higher Vocational Education, Social Identification, Price Fairness

JEL Classification Code: I23, J28, L2

1. Introduction

In recent years, educational scholars and researchers have become aware of the importance of student satisfaction in higher education. Moreover, it has become a popular and important topic in education. Every higher education institution is trying to improve the quality of education, the quality of teaching and learning, by using various and different methods. An important and useful method is trying to meet or exceed the expectations of the students, that is student satisfaction. So, to improve the quality, it is important to know that a specific university, a specific course, or a specific faculty is exceeded or lowered to the students'

expectations. According to the carding of previous studies, it can be seen that the research on the impact of the college environment on students' learning satisfaction at home and abroad is more concentrated on the two aspects of the interaction between hard facilities and human emotions. The impact of family is mainly reflected in economic and emotional support, including educational expectations. The impact on society is mainly reflected in the requirements of the social environment for higher education talents and the employment support provided for college students. In terms of individual factors, in addition to the influence of demographic variables, scholars mainly study cognitive and psychological aspects, including professional identity,

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learning style, etc. The first-year experience is very important for college students because they must quickly encounter university life, and the learning style is much different from those they have engaged in at their high schools (Dong & Lucey, 2013). However, no data or facts regarding freshman satisfaction with higher vocational education can ever be found. Hence, investigating first-year students' satisfaction with higher vocational education also becomes important.

Our research at SUCC, a higher vocational college with 7 institutes and 30 majors, has the potential to significantly impact the field of higher education. We focus on the Freshman currently studying at Shanghai Urban Construction Vocational College and have selected Health and Social Care Institute 3 out of 6 majors as they are sources of freshmen. The three majors are: Nursing, Elderly service and management and Health management. Our findings could provide valuable insights into student satisfaction in higher vocational education.

2. Literature Review

2.1 Student Satisfaction

Athiyaman (1997) defined student satisfaction as a short attitude period generated by evaluating students' educational experiences. Elliott (2002) pointed out that satisfaction will emerge when the realistic representation achieves or surpasses student expectations. Satisfaction exists when students have a wonderful subjective evaluation of their experience and outcome (Annamdevula & Bellamkonda, 2016). As per the findings of Appuhamilage and Torii (2019), student satisfaction serves as a gauge for assessing the extent to which teachers and universities fulfill the expectations and objectives set by the students.

2.2 Social Identification

Social identification generally positively impacts both academic achievement and student contentment (Kang, 2014; Kim et al., 2010; Myers et al., 2016; Wilkins et al., 2016). Individuals confronted with challenges forming harmonious friendships are less likely to derive satisfaction from their university experience and exhibit a heightened likelihood of dropping out (Wilcox et al., 2005). Fang and Zhao (2010) put forth a framework suggesting that a suitable alignment between user characteristics and technology leads to enhanced enjoyment, while social influence may moderate the effects of this alignment. Consequently, the following hypothesis is formulated:

H1: Social identification has a significant impact on student satisfaction.

2.3 Student Perceived Service Quality

According to Parasuraman et al. (1985), the evaluation of overall service quality by customers is contingent upon the disparity between their expectations and perceptions of the actual performance levels. Empirical studies have substantiated the direct impact of students' perceived service quality on their satisfaction level (Teeroovengadum et al., 2019). Student graduates' satisfaction is influenced by service quality dimensions such as academic staff, administration, classrooms, and library services (Sharabati et al., 2019). Students' perception of service quality, encompassing teaching, administrative services, academic facilities, campus infrastructure, support services, and internationalization, serves as the primary determinant of student satisfaction (Annamdevula & Bellamkonda, 2016). Consequently, the following hypothesis is presented:

H2: Student perceived service quality has a significant impact on student satisfaction.

2.4 Perception of University Sustainable Practices

From the standpoint of a university, sustainability is defined as an ever-evolving concept manifested in its fundamental goals and ingrained within its institutional mission, public engagement, leadership, research, practice, and operations, as well as pedagogy and curricula across various disciplines (Muhammad et al., 2022). The notion of sustainability, defined as the objective of achieving sustainable development, enables the fulfillment of environmental, economic, and social goals to address the needs of current and future generations (Brundtland, 1987).

Implementing sustainability within universities presents a formidable challenge, as it entails a profound shift in cultural norms, practices, policies, and heightened awareness of one's environmental landscape (Dyball et al., 2015; Moore, 2005). A survey on student satisfaction revealed that students unanimously recognized the importance of possessing knowledge in sustainable development (Sharma & Kelly, 2014). As a result, the following hypothesis is posited:

H3: Perception of university sustainable practices has a significant impact on student satisfaction.

2.5 Price Fairness

According to Xia et al. (2004), price fairness can be defined as an evaluation made by consumers, accompanied by their corresponding emotions, regarding whether the discrepancy between a seller's price and the price offered by a comparable alternative party is deemed reasonable, acceptable, or justified. According to Xia et al. (2004, p. 3), price fairness refers to the cognitive evaluation and

accompanying emotional response of consumers regarding the reasonableness, acceptability, or justifiability of the disparity (or lack thereof) between a seller's price and that of a comparable alternative party. The perception of price fairness significantly impacts both consumer satisfaction and their purchasing intentions, as well as their actions toward the seller (Campbell, 1999; Martins, 1995). This perception not only shapes the product's perceived value but also drives consumer satisfaction. Moreover, an unfair perception of pricing can evoke negative emotions towards the sellers, which can vary in intensity and nature. Hence, the fourth hypothesis is:

H4: Price Fairness has a significant impact on Student Satisfaction.

2.6 Built Environment

Lamprecht (2016) underlined the built environment's appeal to customers and its influence on customer retention, making it a visible factor in service quality. The research on the built environment covers six dimensions: appearance, comfort, configuration, function, work type, and interpersonal relationship (Milan et al., 2015; Preiser & Hardy, 2018). The configuration of the built environment evaluates the presence and quantity of free space, while functionality estimates the space's functional representation generated by building projects. Orihuela and Orihuela (2014) found that location was also a very important factor, involving geographical positioning and the convenience it offers to student life. This underscores the multi-dimensional nature of the built environment and its significant impact on student satisfaction.

According to Kärnä and Julin (2015), the research variables and the physical space for teaching significantly influence the overall satisfaction of both students and staff cohorts. The quality of public areas, auditoriums, and libraries greatly impacts HEI student satisfaction (Hanssen & Solvoll, 2015). This study suggests that physical installation may be more important than common elements interrelated to basic facilities. The meeting facilities, library infrastructure, housing options, work environment, and recreational amenities provided by state regional universities substantially impact students' overall satisfaction (Weerasinghe & Fernando, 2018).

The satisfaction of university students results from assessing their educational journey through a range of perceptions encompassing their academic experience, the services provided, and the educational facilities they encounter throughout their academic tenure (Hanssen & Solvoll, 2015; Weerasinghe & Fernando, 2018). It also indicates their allegiance to the higher education institution and the educational system's effectiveness (Weerasinghe & Fernando, 2018). Kärnä and Julin (2015) provided a concise

overview of the significance of the learning environment in student satisfaction. Weerasinghe and Fernando (2018) identified that the conference room amenities, library, accommodation, employment, and entertainment provisions at state regional universities impacted students' overall satisfaction. Furthermore, Marimon et al. (2020) postulated that the curriculum, skill development, services, and facilities influence students' overall satisfaction in higher education institutions. As a result, the following hypothesis is proposed:

H5: Built Environment has a significant impact on student satisfaction.

3. Research Methods and Materials

3.1 Research Framework

The researcher applied three model theories from Amal and Stephen (2022), Sartaj and Ajoy (2021), and Student satisfaction from the influence of the built environment, price fairness, and teaching care: a study at a community-supported university by Marcelo et al. (2021). All three theoretical frameworks mentioned above supported and developed a conceptual framework in Figure 1.

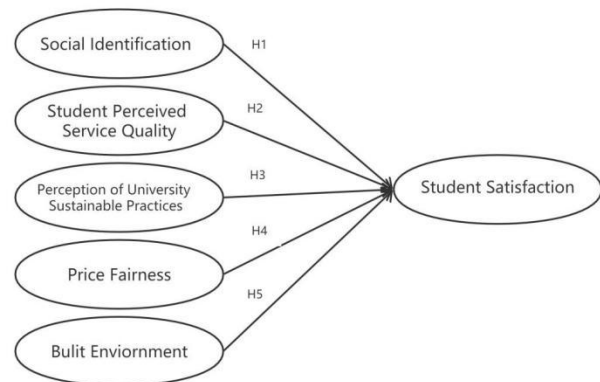


Figure 1: Conceptual Framework

H1: Social identification has a significant impact on student satisfaction.

H2: Student perceived service quality has a significant impact on student satisfaction.

H3: Perception of university sustainable practices has a significant impact on student satisfaction.

H4: Price fairness has a significant impact on student satisfaction.

H5: Built environment has a significant impact on student satisfaction.

3.2 Research Methodology

The research process encompasses three distinct stages. Firstly, a comprehensive survey was conducted among the entire research population ($n=80$) to gather data for the proposed conceptual framework. Subsequently, all hypotheses underwent rigorous testing using multiple linear regression, with a significance threshold of $p<0.05$. Hypotheses that received support were retained, while those that did not meet the criteria were discarded.

In the second stage, pre-strategic Plan surveys were administered to the remaining population of 80 students within the supported hypotheses. The third stage introduced the Strategic Plan (SP), specifically implemented with 30 participants.

During the final stage, 30 SP participants completed a survey, providing the necessary data for a paired-sample t-test analysis. This analysis compared the pre-strategic Plan and post-strategic Plan results. This comprehensive process enabled a thorough examination of the research objectives and hypotheses.

3.3 Research Population, Sample Size, and Sampling Procedures

3.3.1 Research Population

In the thesis, the research population is first-year students majoring in three departments of SUCC: Nursing, Elderly service management, and Health management. The researcher selected 80 students as the research population to implement the pre-survey. According to the SUCC program (2022), there were around 11,000 students, and this research proportion accounted for 0.73% of the total student population. Students from different department departments were two classes from the Nursing Department, 1 class from the Elderly Service and Management Department, and 1 class from the Health Management Department. Eighty students received questionnaires on printed paper. Afterward, the researcher checked all responses and confirmed that 80 responses were valid.

3.3.2 Sample size

The researcher conducted a pilot survey on 80 students randomly to assess the reliability of the survey instrument. Following the pilot test, the researcher identified 80 SUCC students as the research population and successfully obtained 80 valid responses. The researcher utilized multiple linear regression to investigate the relationship between the independent and dependent variables. Finally, 30 willing students were chosen to participate in the Strategic Plan stage of the research.

3.3.3 Sampling Procedures

The researcher conducted multiple sampling procedures throughout the research process.

The first sampling occurred for the pilot survey and pilot test, where 15 students were randomly chosen to complete the survey questionnaire and provide feedback.

Secondly, the researcher sampled 80 SUCC students from different academic years for the pre-survey, distributing the survey questionnaire online or offline. All responses were then reviewed, and 80 valid responses were confirmed.

Finally, for the Strategic Plan stage, 30 willing students were randomly selected to participate in implementing the Strategic Plan.

3.4 Research Instruments

3.4.1 Design of Questionnaire

The researcher designed the survey questionnaire by following three steps.

Step 1: Identifying questionnaire sources from three openly published articles (Amal & Stephen, 2022; Marcelo et al., 2021; Sartaj & Ajoy, 2021).

Step 2: The crucial step of adjusting and adapting the survey questionnaires to fit the context of Chinese university students was a testament to our commitment to relevance and cultural appropriateness.

Step 3: Implementing the Item Objective Congruence (IOC) was essential to ensuring the questionnaire's validity and reliability.

3.4.2 Components of Questionnaire

Survey questionnaire items were composed of the following three parts:

Part 1: Screening Questions. There were screening questions to filter out the non-research population.

Part 2: Basic info Questions. There were questions to gain basic info of research population including gender, age, birthplace and so on, all of which will be handled with the utmost confidentiality to ensure your privacy.

Part 3: Pre-survey Questions. There were questions for the pre-survey to find out the current level of IV and DV to a total of 80 SUCC students.

3.4.3 IOC Results

The researcher invited five independent experts, such as university professors, to implement IOC (Index of item-objective congruence). In this IOC process, independent experts, scholars, or doctors are marked +1 for Congruent, 0 for Questionable, and -1 for Incongruent. In this research, all questionnaire items were greater than 0.67, so the researcher retained all questionnaire items.

3.4.4 Pilot survey and Pilot test results

The researcher randomly implemented a pilot survey of 15 students by asking them to fill out the survey questionnaire and give feedback. Afterward, the researcher implemented Cronbach's Alpha's internal consistency reliability test, in which values should be equal to or greater than 0.7 (Nunnally & Bernstein, 1994). Therefore, the table below demonstrates the approved results for the high reliability of each construct.

Table 1: Pilot Test Result

Variables	No. of Items	Sources	Cronbach's Alpha	Strength of Association
Social Identification (SI)	3	Amal and Stephen (2022)	0.935	Excellent
Student Perceived Service Quality (SPSQ)	3	Sartaj and Ajoy (2021)	0.985	Excellent
Perception of University Sustainable Practices (PUSP)	4	Sartaj and Ajoy (2021)	0.989	Excellent
Price Fairness (PF)	6	Marcelo et al. (2021)	0.921	Excellent
Built Environment (BE)	8	Marcelo et al. (2021)	0.968	Excellent
Student Satisfaction (SS)	5	Marcelo et al. (2021)	0.976	Excellent

4. Results and Discussion

4.1 Results

4.1.1 Demographic Profile

The researcher demonstrated the demographic profile of the entire research population (n=80), followed by the selected students' group (n=30), who participated in the Strategic Plan as shown in Table 2.

Table 2: Demographic Profile

Entire Research Population (n=80)		Frequency	Percent
Gender	Male	15	18.8%
	Female	65	81.2%
Age	18	6	7.5%
	19	50	62.5%
	20	18	22.5%
	21	6	7.5%
Major	Nursing	42	52.4%

Entire Research Population (n=80)		Frequency	Percent
	Elderly service and management	19	23.8%
	Health management	19	23.8%
Total		80	100%
IDI Participants (n=30)		Frequency	Percent
Gender	Male	7	23.3%
	Female	23	76.7%
Age	18	2	6.7%
	19	24	80.0*
	20	3	10.0%
	21	1	3.3%
Major	Nursing	18	60.0%
	Elderly service and management	7	23.3%
	Health management	5	16.7%
Total		30	100%

4.1.2 Results of multiple linear regression

Multiple Linear Regression (MLR) on 80 survey questionnaire results and found out whether each hypothesis was supported. There were ten research hypotheses, among which the first five were related to the dependent variable, student satisfaction (SS). Based on the variance inflation factor (VIF) analysis, it can be concluded that multicollinearity is not a concern since the VIF value is below 5 (Hair et al., 1995). The R-squared (R^2) in a multiple linear regression model with five independent variables can account for 73% of the variability in Student Satisfaction (SS).

Table 3: The multiple linear regression of five independent variables on satisfaction

Variables	Standardized Coefficients Beta value	t-value	p-value	VIF	R^2
Social Identification	0.61	6.79	< 0.001*	2.74	0.73
Student Perceived Service Quality	0.619	6.95	< 0.001*	3.65	
Perception of University Sustainable Practices	0.65	7.54	< 0.001*	4.75	
Price Fairness	0.655	7.66	< 0.001*	3.02	
Built Environment	0.827	12.9	< 0.001*	2.47	

Note: p-value <0.05*

In sum, H1, H2, H3, H4, H5 were supported for the five hypotheses. Therefore, the hypotheses were developed in stages based on results from multiple linear regression

analyses. Afterwards, SS was conducted to follow below hypotheses:

H6: There is a significant mean difference in Social Identification between pre -Strategic Plan and post Strategic Plan stages.

H7: There is a significant mean difference in Student-perceived service quality between the - and post-strategic plan stages.

H8: There is a significant mean difference in Perception of University Sustainable Practices between the pre-the and Strategic Plan stages.

H9: There is a significant mean difference in price fairness between the stages of the pre- and post-structural plans.

H10: There is a significant mean difference in the Built Environment between the pre-and post-strategic Plan stages.

H11: There is a significant mean difference in Student Satisfaction between the pre-strategic Plan and the post-strategic plan stages.

Table 4: Implementation time and activities as Strategic Plan

No.	Time and Duration	Implementation keywords
1	Week 1-3	Team establishment
		Goal setting
		SWOT diagnostic analytic tool
2	Week4-7	Group mentoring
3	Week 8-12	Practical platform

4.2 Strategic Plan Stage

The Strategic Plan lasted for 12 weeks and was based on quantitative data collected at the Pre-Strategic Plan stage to achieve the purpose of this research, which was developing Student Satisfaction. The researcher illustrated the Strategic Plan chronologically, as in Table 4.

4.3 Results Comparison between Pre and Post Strategic Planning Stage

The researcher implemented a paired-sample t-test analysis on all six variables to identify whether there were any differences in Student Satisfaction between the Pre-Strategic Plan and Post-Strategic Plan stages. The tables below illustrate a paired-sample t-test analysis on six variables as follows:

Table 5: Paired-Sample T-Test Results

Variables	Mean	SD	SE	p-value
Social Identification (SI)				
Pre-Strategic Plan	3.70	0.750	0.1369	p<0.05
Post-Strategic Plan	4.03	0.490	0.0895	
Student Perceived Service Quality (SPSQ)				

Variables	Mean	SD	SE	p-value
Pre-Strategic Plan	3.70	0.794	0.1450	p<0.001
Post-Strategic Plan	4.25	0.410	0.0749	
Perception of University Sustainable Practices (PUSP)				
Pre-Strategic Plan	3.62	0.751	0.1369	p<0.001
Post-Strategic Plan	4.45	0.461	0.0842	
Price Fairness (PF)				
Pre-Strategic Plan	3.07	0.917	0.1674	p<0.001
Post-Strategic Plan	4.25	0.431	0.0786	
Built Environment (BE)				
Pre-Strategic Plan	3.35	0.756	0.1380	p<0.001
Post-Strategic Plan	4.22	0.449	0.0819	
Student Satisfaction (SS)				
Pre-Strategic Plan	3.30	0.988	0.1804	p<0.001
Post-Strategic Plan	4.13	0.507	0.0926	

Table 5 illustrates the results of the paired-sample t-test analysis of the pre-strategic Plan and post-strategic Plan comparison as follows:

The post-Strategic Plan stage saw a noteworthy increase in Social Identification (M=4.03, SD=0.490, SE=0.0895) compared to the pre-Strategic Plan stage (M=3.70, SD=0.750, SE=0.1369), with a mean value difference of -0.333 and P<0.05. This supports H6, indicating a significant mean difference in Social Identification between the two stages.

There was a significant increase in Student Perceived Service Quality (SPSQ) between post-Strategic Plan (M=4.25, SD=0.410, SE=0.0749) stage

The post-Strategic Plan stage (M=4.20, SD=0.794, SE=0.1450) showed a substantial increase in Student Perceived Service Quality compared to the pre-Strategic Plan stage (M=3.70, SD=0.794, SE=0.1450), with a mean value difference of 0.550 and P<0.001. This supports H7, indicating a significant mean difference in Student Perceived Service Quality between the two stages.

The post-Strategic Plan stage saw a significant increase in Perception of University Sustainable Practices (M=4.45, SD=0.461, SE=0.0842) compared to the pre-Strategic Plan stage (M=3.62, SD=0.751, SE=0.1371), with a mean value difference of 0.833 and P<0.001. This supports H8, indicating a significant mean difference in Perception of University Sustainable Practices between the two stages.

There was a significant increase in Price Fairness (PF) between post-Strategic Plan (M=4.25, SD=0.431, SE=0.0786) stage and pre-Strategic Plan stage (M=3.07, SD=0.917, SE=0.1674), while P<0.001 and mean value difference between post-Strategic Plan stage and pre-Strategic Plan stage was 1.18. Therefore, H9 supported the idea that there is a significant mean difference in price fairness between the pre- and post-strategic plans.

There was a significant increase in Built Environment (BE) between post-Strategic Plan (M=4.22, SD=0.449, SE=0.0819) stage and pre-Strategic Plan

stage ($M=3.35$, $SD=0.756$, $SE=0.1380$), while $P<0.001$ and mean value difference between post-Strategic Plan Stage and Strategic Plan stage was 0.867. Therefore, H10 supported the idea that the built environment has a significant mean difference between the pre-strategic Plan and the post-strategic Plan.

There was a significant increase in Student Satisfaction (SS) between the post-Strategic Plan ($M=4.13$, $SD=0.507$, $SE=0.0926$) stage and pre-Strategic plan stage ($M=3.30$, $SD=0.988$, $SE=0.1804$), while $P<0.001$ and mean value difference between post-Strategic Plan stage and pre-Strategic Plan stage was 0.833. Therefore, H11 supported the idea that there is a significant mean difference in student satisfaction between pre- and post-strategic plans.

According to the paired-sample t-test results demonstrated above, the researcher reached the following conclusions. First, all six variables had significant mean differences between the post-strategic Plan stage and the pre-strategic-strategic Plan stage. Second, the researcher found a significant increase in Student Satisfaction between the pre-strategic Plan and post-strategic Plan phases.

5. Conclusions, Recommendations and Limitations

5.1 Conclusions & Discussions

The study investigated the influence of five independent variables, namely Social Identification, Student perceived service quality, Perception of University Sustainable Practices, Price Fairness, and Built Environment, on one dependent variable, student satisfaction. The research employed a comprehensive research design, data collection, and methodology to draw meaningful conclusions.

The research design was meticulous, incorporating the use of the Index of Item-Objective Congruence (IOC) for validity and Cronbach's Alpha in a pilot test to ensure the reliability of the measurement instruments. This rigorous approach to measurement bolstered the credibility of the research. Data were collected from 80 valid responses from students at Shanghai Urban Construction Vocational College (SUCC) and were subjected to multiple linear regression analysis to verify the significant relationships between the independent and dependent variables. Furthermore, a 12-week Strategic Plan (SP) was carried out with a selected group of 30 students. Post-SP data were collected and compared with pre-SP data using paired-sample t-tests.

The study's results demonstrated that certain factors significantly impacted student satisfaction. Social identification, student-perceived service quality, perception of university sustainable practices, price fairness, and built

environment significantly influence student satisfaction. This suggests that focusing on social identification, student-perceived service quality, perception of university sustainable practices, price fairness, and built environment can enhance student satisfaction.

The findings from the paired-sample t-test for comparison showed a significant difference in student satisfaction between the post-SP and pre-SP stages. This suggests that the 12-week Strategic Plan (SP) Implementation positively and statistically significantly impacted student satisfaction.

In conclusion, this research has made a significant contribution by demonstrating the influence of Social Identification, student-perceived service quality, Perception of University Sustainable Practices, Price Fairness, and Built Environment on student satisfaction in the context of Shanghai, China. The study's robust methodology, comprehensive analysis, and practical implications provide valuable insights into the factors that can enhance student engagement. These findings can be used to inform educational strategies aimed at developing these vital skills in students, thereby preparing them for success in an increasingly competitive and innovative world.

5.2 Recommendations

In recent years, educational scholars and researchers have become aware of the importance of student satisfaction in higher education. Moreover, it has become a popular and important topic in education. The research objectives were to explain the causal relationship between social identification, student-perceived service quality, perception of university sustainable practices, perception of price fairness, the built environment, and student satisfaction with higher vocational education in Shanghai, China. In order to examine the correlation, the research framework has been meticulously crafted by amalgamating numerous research theories and relevant literature from various vantage points. Consequently, the ensuing analysis aims to shed light on the intricate nuances of the objective. Below, we delve into the depth and intricacy of the focal objective.

Social identity, a key determinant of student satisfaction, plays a pivotal role in the educational journey. It fosters friendships and enhances the sense of social identity in learning. By increasing classroom activities, students can bolster their sense of identity, thereby enriching their educational experience.

Students' perception of service quality, encompassing teaching, administrative services, academic facilities, campus infrastructure, support services, and internationalization, serves as the primary determinant of student satisfaction. Dimensions of service quality, such as academic staff, administration, classrooms, and library

services, influence the satisfaction of students. By carrying out activities such as library volunteer services, administrative department rotation activities, dormitory management, etc., students can increase their perception and participation in the quality of school services.

The integration of sustainable development into universities has gradually permeated through avenues such as education, research, outreach, and partnership. Educational providers should offer students high-quality and specialized programs related to sustainable development, thereby instilling a sense of ethical conduct and responsibility. For example, international exchange programs can enhance students' international perspectives, broaden their learning strategies, and enhance the school's sustainable development capabilities.

One of the significant factors influencing student satisfaction is the fairness of pricing. Disparities in prices among students can lead to the highest level of dissatisfaction. However, by maintaining fair educational prices, institutions can significantly improve student satisfaction. As a public institution, SUCC is committed to upholding the charging standards of higher education institutions in Shanghai, ensuring the fairness and impartiality of tuition fees for every student. During the strategic planning phase, by publicly disclosing tuition fees, we aim to enhance transparency and ensure price fairness, thereby reassuring students of our commitment to their satisfaction.

Building environments such as classrooms, laboratories, equipment, libraries, cafeterias, accommodation, and Internet access can improve student satisfaction. Students can establish a sense of identification with campus architecture and historical culture through campus cultural lectures, campus visits, campus activities, and other means. Students can help establish a love for the campus through large-scale campus activities.

In conclusion, the results of this study provide valuable insights for educational institutions seeking to improve student satisfaction. By implementing these recommendations, institutions can create a comprehensive and supportive environment that enhances students' social identity, perception of the school's-built environment, sustainability, service capabilities, and price fairness. Improving student satisfaction can better promote the development of educational institutions and enhance educational capabilities. Educational institutions are responsible for accepting these suggestions and providing students with more opportunities for higher educational services.

5.3 Limitations for Future Research

While the study on the influence of independent variables on student satisfaction offers valuable insights, it's essential to acknowledge its limitations to guide future research in this area. These limitations not only suggest potential avenues for further investigation but also open exciting possibilities for research refinement.

Sample Size and Demographics: The study focused on a specific group of students from Shanghai Urban Construction Vocational College (SUCC). Future research should diversify the sample by including students from various educational backgrounds, age groups, and cultural contexts to assess the generalizability of the findings.

Variables and Relationships: The study focused on five specific independent variables and one dependent variable. Future research could explore additional independent variables and their potential interactions, offering a more holistic view of the factors influencing student satisfaction.

Strategic Plan: The study implemented a specific Strategic Plan (SP) program. The scope of this study is limited, focusing only on a certain aspect or stage of the strategic plan without comprehensively examining the entire process or multiple impacts of the strategic plan. The depth of this study is insufficient, as it only provides a superficial analysis and discussion of the strategic plan. There is an urgent need for a more comprehensive analysis of the strategic plan to fully understand its underlying reasons and potential impacts.

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