A Model for Developing Student Satisfaction for Undergraduate Students in Private Higher Education Institutions in Singapore

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Abstract

Background and Aim: Although the private education sector brings economic contributions to Singapore, there are still two kinds of problems encountered: a decline in enrollment and quality insurance. Moreover, undergraduate students are potential leaders, and their expectations and satisfaction could influence social change, accordingly, the researcher purposed the model to enhance levels of student satisfaction in private higher education institutions in Singapore.

Materials and Methods: The research was quantitative methods, with a total of 600 analytic samplings, then, the research was conducted in three representative private higher education institutions in Singapore, there were three parts including the research instrument: level of student satisfaction, factors influencing student satisfaction, and demographic information, the instrument conducted Likert's five-point scale; the online questionnaire was a tool for data collection; in the first objective, here would perform to descriptive analysis, the second objective and the third objective would work to inferential analysis (multiple linear regression and MANOVA), the final objective would combinate significant findings and develop the suitable model, then, the proposed model would be validated by five experts given scores, the researcher would whether revise the model according to the given scores (>0.60 was acceptable level), the evaluation model was CIPP.

Results: the research provided significant results: (1) undergraduate students were general satisfied to private higher education institutions in Singapore, especially, three lower satisfactory factors as: education and teaching, utility and relevance, technology and library; (2) the six impact factors were significant relationship with student satisfaction, importantly, there were three strongly impact as: education and teaching, campus, and admin, support and flexibility; (3) two student groups were a lower satisfaction in private higher institutions in Singapore: the first-year students and Singapore citizens; (4) the model suggested private higher education institutions in Singapore need to exclusively improve quality of education and teaching, quality of campus, quality of admin, support and flexibility to enhance students' satisfaction to the first-year students and Singapore citizen students, the model was validate by given scores (<0.60) from five experts who familied with higher education development in Singapore, finally, they approved the model can helpful to develop students' satisfaction for undergraduate students in private higher education institutions in Singapore.

Conclusion: the model can provide significant empirical suggestions for stakeholders in higher education in Singapore or globally: the higher institutions can focus on improving quality in education and teaching, campus, admin, support, and flexibility, mainly including two student groups: the first-year students and their citizens.

Keywords: Student Satisfaction; Higher Education; Undergraduate Students; Model; Singapore

Introduction

The private education sector was a partial economic contribution to the national GDP growth (Lim et al, 2022); then, Singapore launched into Global schoolhouse project to attract excellent global higher education institutions in Singapore (Luo et al, 2015); in this way, developed Singapore's higher education to internationalize (Heng et al, 2020; Yeo & Li, 2014); however, over the years, the quality of higher education in Singapore be a member of global higher quality of education, which is proof that Singaporean educational system is almost developed, however, covid-19 spread of global, private higher education already meet emerging challenges: (1) a declining trend of student enrollment; (2) quality of private higher education institutions need to improve sustainably (Chong et al, 2015; Chandra et al,2019; Hoda et al, 2022). Furthermore, undergraduate students are future leaders in a national community, and their expectations and satisfaction with higher education might significantly impact the adaption of higher education in a country or make social change; possibly, undergraduate students in Singapore have similar requests and social needs (Akbari et al, 2022; Zhang & Asavisanu, 2022). However, student satisfaction included different perspectives in business and education research; the term business research is often recognized as a kind of consumer behavior; however, in educational research, the term was a kind of student outcome (Manzoor et al, 2021; Winstone et al, 2022). Then, impact factors in student satisfaction there were kinds of theories, according to general world-class university ranking and specific demands in Singapore; the research would conduct six factors developed by synthesizing works of literature: education and teaching, utility and relevance, campus, technology and library, admin, support, and flexibility, social (Darawong & Sandmaung, 2019; Smith, 2020; Thoo et al, 2022). According to recommendations from previous studies, the research would like to conduct quantitative analysis to develop the model; according to related demography studies, the research would set three demographic values: gender, identity, and grade, especially, identity in the research was recognized as Singapore special: Singapore citizen, Singapore permanent, and international students. Overall, the researcher wanted to develop a suitable model to enhance student satisfaction for undergraduate students in private higher education institutions in Singapore.

Research Objectives

The research embraced the following objectives:

1. To explain what level of student satisfaction in Singapore's private higher education institutions.

2. To determine what relationship between student satisfaction and influencing factors can promote student satisfaction in Singapore's private higher education institutions.

3. To determine the differences between students' demographics and individual factors that promote satisfaction in Singapore's private higher education institutions.

4. To propose a suitable model that improves student satisfaction in Singapore's private higher education institutions.

Literature Reviews

First, **student satisfaction in higher education generally and Singapore specials.** Student satisfaction is a term that impacts the quality of higher education in general; there were reasons that higher education needs to focus on student satisfaction: (1) the term can proceed to higher education institutions successfully; (2) governments would conduct suitable adaption according to current student learning performance and specials in student development affairs; (3) higher education seen as a kind of industry, student satisfaction might bring commercial benefits to the industry and the line (Sohail & Saeed, 2003; Brown & Mazzarol, 2009; Ahmad, 2015; Alemu & Cordier, 2017; Azizan et al, 2022). Under educational globalization, there was a degree of competition for most mainstream higher education institutions (Akbari et al, 2022; Khoo et al, 2017); thus, higher education institutions need a practical strategic model/ framework for developing student satisfaction sustainably, then university students are potential social leaders globally, so students' feedback might be a successful factor in higher education institutions (Manzoor et al, 2021; Zhang & Asavisanu, 2022). However, as covid-19 spread throughout the World, student satisfaction has been measured adaptably from traditions to refreshments by innovations in educational technologies, which made a question of what and how to upgrade adaptions of measurements in student satisfaction for higher education institutions generally (Azizan et al, 2022; Hoda et al, 2022). Thus, the potential researchers can survey the fields and make new learnings and contributions to improve the quality of higher education globally after covid-19 (Winstone et al (2022). It deserved attention, but a shortage of scholarly literature revealed the history of student satisfaction in related research. Thus, there was no brief historical development of student satisfaction in higher education. Singapore's Education System (SEM) caters to developing the strength and interest of every student; the national education system thrives core of competencies for lifelong learning for every student in the 21st (Luo et al, 2015); Singapore has its particular outline of higher education (Alemu & Cordier, 2017): (1)pre-university education, such as junior college, centralized institute; (2) post-secondary education, including polytechnics, institute of technical education, specialized arts school; (3) Universities. Higher education is a part of the national education system, including public and private educational agencies (Martha-Martha & Priyono, 2018); primarily, private higher education institutes are managed by the Ministry of Education and CPE; the CPE could accredit and grant to EduTrust to approved private schools or higher educational institutes (Darawong & Sandmaung, 2019). Moreover, the EduTrust certification system would check students learning outcomes with student satisfaction level; thus, a survey of student satisfaction was important for private higher education institutions, and it concerned whether a qualification they have in the education system (Chandra et al, 2019; Heng et al, 2020; Lim et al, 2022). In summary, grounded on the global competition of the higher education industry and quality insurance in private higher education institutions in Singapore, they need to seek sustainable development of student satisfaction.

Secondly, **definitions of students' satisfaction in higher education**. In education, student satisfaction in higher education is generally considered a short-term attitude to the learning experience, outcome, and performance. It can talk about a feeling that learners whether satisfied with their study objectives, such as knowledge attainment, skills attainment, attitudes attainment, values development, etc. (Chong et al, 2015; Chandra et al,2019; Hoda et al, 2022); However, business researchers explained the definition of student satisfaction in higher education, which was a kind of consumer behavior from

students; moreover, in business research, researchers would argue that education is a kind of product (service), so students were consumers, so, sometimes, researchers in business might design to their research with perspectives on student satisfaction like consumer behavior (Luo et al, 2015; Khoo et al, 2017; Chandra et al, 2019; Hoda et al, 2022). Due to subject differences, the definition of student satisfaction in education and business is still a crucial argument.

Third, **factors that impact student satisfaction in higher education.** Generally, Factors that can promote students' satisfaction were termed to enhance personality, assist in reaching learners' learning objectives, and improve learning accomplishment and psychological development (Brown & Mazzarol, 2009; Yeo & Li, 2014; Luo et al, 2015; Khoo et al, 2017; Chandra et al, 2019; Hoda et al, 2022). Many theories explored and explained influencing factors in students' satisfaction; the related theories mainly included influencing predictors of student satisfaction in the quality of the university, quality of degree or program, quality of educational facilities, etc.; they considered improving student satisfaction which managed to quality insurance in higher education (Khoo et al, 2017; Chandra et al, 2019; Hoda et al, 2022). Furthermore, students' satisfaction is a crucial predictor of world university ranking in some reference indexing work. However, Singapore higher education learning institutions also participate in the World University ranking indexing, such as QS and other international or local universities ranks; then, the original of what factors impact students' satisfaction referred to the Ministry of Education, as further, private higher education learning institutions in Singapore, they should follow quality insurance by EduTrust Certification system. Thus, there are primary factors, such as instructors' quality, course quality and design, student expectation and performance, etc. (Sohail & Saeed, 2003; Brown & Mazzarol, 2009; Yeo & Li, 2014; Luo et al, 2015; Khoo et al, 2017; Chandra et al, 2019; Smith, 2020; Hoda et al, 2022).

In the research, the researcher synthesized related scholar publications to develop the six factors that can promote students' satisfaction in higher education: (1) education and teaching, the term referred as levels of students' expectation in the quality of instructors' quality, and courses quality and design (Luo et al, 2015); (2) campus, the definition indicated individuals of comprehensive understanding and expectation in environmental predictors in a higher education institution, including natural and artificial predictors (Alemu & Cordier, 2017); (3) utility or relevance, the term stated students' expectation in hard wares for a higher education institution, for example, class rooms, coffee corners, discussion spaces, and etc. (Darawong & Sandmaung, 2019); (4) technology and library, the substance highly influence students' expectation and performance for higher education agencies, in the 21st century, technology either is being a critical competence to generations all World, Singapore aims to be a kind of intelligent nation around the World, thus, higher education institutions in the nation needed to provide qualified preparations to undergraduate students in the nation (Chandra et al, 2019); (5) admin, support and flexibility, the definition told indicators can help students touch and access to a higher education institution, scholar publications found convenient, easy going, and flexible tracks to recruit students, these ways might bring a higher level of student enrollment and retention (Heng et al, 2020); (6) social, the term said communities in a higher education institutions, as general known, communities can push personal change and development to students, it also was being part of small social for students, a community in higher education institutions, it consists of share purpose, share interesting, and share commitments. Further, private higher education institutions are developing part in higher education in the nation; they can

lead the six categories of leading factors on students' satisfaction to reach their targets, consistent with the national higher education development (Azizan et al, 2022; Manzoor et al, 2021).

Problems in higher education institutions in Singapore. Here discussed what issues exist or emerging in higher education institutions in Singapore; private higher education institutions are partial to the national higher education, and they might encounter similar issues. Thus, there were the issues as follows (Brown & Mazzarol, 2009; Manzoor et al, 2021; Hoda et al, 2022; Lim et al, 2022): (1) the nation still met the problem of a lower rate of born, which means there is still a lower increased population in the nation; thus, higher education institutions need to consider what and how to save and develop under the lower rate of increased population in the nation, for example, there would be a shortage of student enrollment; (2) Singapore government aimed to enforce its higher education qualified and international, thus, higher education institutions already in front of a degree of competition. The national government launched on the project, Global Schoolhouse, the project wanted to prompt to develop the national education to be a part of global level, therefore, the project as a attract platform, taking in many international higher education academies to launch in the landscape, since that, private higher education institutions need to consider how to develop their comprehensive competition abilities in the nation; (3) quality insurance is the crucial topic for higher education in Singapore, till now, in opposite of increasing expectation, there were drop and decline quantities of private education institutions in Singapore since 2007, there were kinds of reasons, such as dishonest and criminal action the closed private education institutions led to, EduTrust Certification system cannot grant to available registration and qualification to these closed private education institutions, even though, by 2020, there were 121000 students enrolled private education institutions, private education sectors already contributed approximately over 3 billion Singapore dollars in the national GDP, however, for covid-19 spread, private education institutions also encountered education technique change and challenge, thus, maintain quality of private education as the first topic and it is still problems in private higher education institutions in Singapore.

Demography Studies in Student Satisfaction in Higher Education. In past scholarly publications related the student satisfaction in higher education, demographic variables, including gender and grade both two demographic values often conducted in research on student satisfaction and higher education context (Chong et al, 2015; Alemu & Cordier (2017; Chandra et al, 2019); however, there were different outcomes in different research contexts; thus, the research conducted both two either and to check what would happen in private higher education in Singapore. However, since Singaporean demography studies revealed identity in Singapore, there was a local special, including Singapore citizens, international students, and Singapore permeance (Chong et al, 2015; Alemu & Cordier (2017; Chandra et al, 2019; Heng et al, 2020; Manzoor et al, 2021; Akbari et al, 2022). Thus, the research would settle the identity as one of the demographic values in the research.

Conceptual Framework

The research was a quantitative analysis, including three theories: student satisfaction, six impact factors in student satisfaction in higher education, and demographic values; the researcher would like to analyze data with sequential objectives to respond what the significant findings in the research, then, the researcher would significant combinate findings to propose the model.
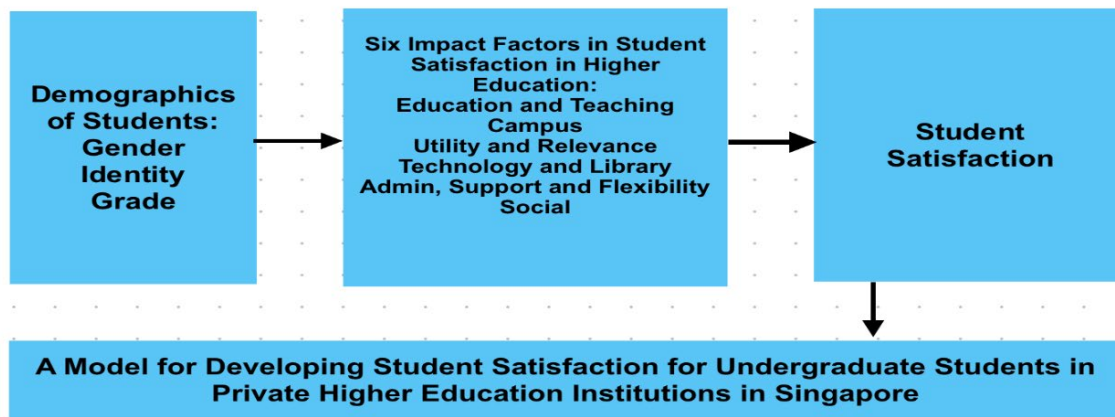
Figure1 the Conceptual Framework of the Research

Methodology

The researcher would like to conduct a quantitative method analysis, the details the below:

First, sample. The research site and scope covered three representative private higher education institutions in Singapore, and the sampling of the research was undergraduate students from the three representative private institutions. There was a total of 613 copies of collected questionnaires; during the collected questionnaires, there were 13 copies of invalid questionnaires; thus, a total of 600 collected questionnaires were the analytic data in the research (600> 385, a minimum of valid sampling with confident index= 95%).

Second, the instrument. The research would conduct three theories: student satisfaction, factors in student satisfaction in higher education institutions, and demographics of students (gender, identity, and grade); literature reviews developed all the theories, and these theories contributed to testing variables in the research instrument; Then, the research instrument included three parts: the first part told the level of student satisfaction, which was measured by a five-point scale; respondents could score levels of satisfaction and faith in themselves; the second part stated six dimensions of factors related student satisfaction in higher education institutions, they were measured by five-point too, respondents could give faith of feelings in the six dimensions; the final part was the demographic of information, including gender, identity, and grade.

Third, the data collection process. Online questionnaires were an effective tool for data collection in the research; the research sites were three representative private higher education institutions in Singapore; the researcher collected data in three months; In the research process, the researcher followed quantitative research policies and the basis of research ethics: trust, anonymity, transparency, and confidentiality; then, the researcher would lead a conflicts statement to announce that the research was independently conducted, and there was without conflict in the research.

Finally, data analysis. From the first to the third, the researcher would conduct a quantitative analysis; additionally, in the final objective, the researcher would combinate all significant findings in the last objectives and propose a suitable model for enhancing student satisfaction in Singapore's private higher education institutions. Moreover, in model validation, the researcher would conduct to experts' intuitions by giving scores to five experts (scholars and professionals in student affairs) familiar with

student development in Singaporean universities. The evaluation model CIPP (context, input, process, and product), the evaluation model was applied exclusively in the education area (Stufflebeam & Zhang, 2017). Then, the researcher would depend on scores from the five experts when some items were at a lower acceptable level (scores > 0.60 is acceptable), so the researcher would revise according to the experts' advice.

Results

Validity & Reliability. Before a large-scale questionnaire distribution, the research would conduct criterion-validity and reliability (pilot-study); there were validity and reliability results as follow:

Table1 Results in Validity

Variables	r*	p**	Interpretations
Education and Teaching	.714	.000	Valid
Campus	.738	.000	Valid
Utility and Relevance	.724	.000	Valid
Technology and Library	.753	.000	Valid
Admin, Support, and Flexibility	.768	.000	Valid
Social	.816	.000	Valid

r*=>.312; p**=sig. 2-tailed<.05; N=40; Dependent Variable: Student Satisfaction

There were 40 university students from Singapore (N=40), with the online questionnaire as the tool for collection. The results indicated that the six variables were valid since all r> .312, all p<. 05, the validity results said the six influencing factors and student satisfaction might be an expected statistical outcome. Thus, the above variables can refer to in the questionnaire validly.

Table2 Results in Reliability

Variables	Cronbach's α	Levels
Education and Teaching	.950	Excellent
Campus	.951	Excellent
Utility and Relevance	.947	Excellent
Technology and Library	.947	Excellent
Admin, Support, and Flexibility	.953	Excellent
Social	.945	Excellent
Student Satisfaction	.950	Excellent

.700≤α<.800: Acceptable; .800≤α<.900: Good; .900≤α: Excellent; N=40

The samplings were similar to the process of validity in the research (N=40). As the results reported, all seven variables were at excellent levels since all values range in .900≤a; therefore, all variables can incorporate into the questionnaire. The results said that participants would have an excellent understanding of each question in the research instrument. The validity and reliability results

indicated that the research instrument could step to a large-scale questionnaire distribution.

Participants. There were three demographic variables: gender, identity, and grade. There were detailed statistics as follows: There were a total of 600 participants in gender matters, males 279 (46.5%) and females 321 (53.5%); Then, in identity matters, permanent residents 70 (11.7%), Singapore citizens 248 (41.3%), and international students 282 (47%); in grade matters, the second-year 108 (18%), the third-year 131 (21.8%), the first-year 163 (27.2%), and the fourth-year 198 (33%).

Findings in research objective one. The first research objective would use quantitative descriptive analysis to respond to what levels of student satisfaction at private higher education institutions in Singapore.

Table3 Finding of Level of Student Satisfaction

Dimension	M	SD
Student Satisfaction	3.09[c]	1.35

N=600; M[a] (1.00-1.80)= strongly unsatisfied; M[b] (1.81-2.60)= unsatisfied; M[c] (2.61-3.40)= general; M[d] (3.41-4.20)= satisfied; M[e] (4.21-5.00)= strongly satisfied

As the table indicated, students at private higher education institutions have attitudes of student satisfaction toward the general level (M=3.09); consequently, private higher education institutions in Singapore need to enhance student satisfaction sustainably.

Table4 Finding of the Satisfied Level of Influencing Factors

Dimensions	M	SD
Social	3.14	1.32
Admin, Support, and Flexibility	3.11	1.31
Campus	3.10	1.31
Technology and Library	3.09	1.32
Utility and Relevance	3.08	1.33
Education and Teaching	3.07	1.33

N=600; M[a] (1.00-1.80)= strongly unsatisfied; M[b] (1.81-2.60)= unsatisfied; M[c] (2.61-3.40)= general; M[d] (3.41-4.20)= satisfied; M[e] (4.21-5.00)= strongly satisfied

Depending on the ranking, social (3.14), admin/ support/ flexibility (3.11), and campus (3.10) as the top three factors, although these were general level, relatively, the bottom three factors: education and teaching (3.07), utility and relevance (3.08), and technology and library (3.09), in conclusion, from the reporting, Singapore's private higher education institutions need to focus on increase satisfied levels of the bottom three factors, especially education & teaching.

Findings in research objective two. The second objective aimed to respond to whether there was a significant relationship between individual influencing factors and student satisfaction by regression analysis.

Table5 Finding of Regression Analysis

Independent Variables	β	p
Education and Teaching	.216	.000*
Campus	.177	.000*
Admin/Support, and Flexibility	.172	.000*
Technology and Library	.158	.000*
Social	.144	.000*
Utility and Relevance	.104	.014*

N=600; Dependent Variable: student satisfaction; R^2=.728; Dubin-Watson=2.019; p*=sig.<.05

For the regression model summary, R^2=.728, Dubin-Watson= 2.019; thus, the regression model was valid, as the presented reporting, all six factors were a significant relationship with student satisfaction (p<.05), then, ranking by the β index, there were the three strongly influencing factors: education and teaching (.216), campus (.177), and admin, support, and flexibility (.172), thus, the private higher education institutions in Singapore can conduct the three strongly influencing factors to improve student satisfaction.

Findings in research objective three. The research objective would employ MONOVA to check the difference between students' demographics and individual influencing factors to student satisfaction at private higher education institutions in Singapore.

Table6 Finding of Demographics Differences in Factors that May Influence Student Satisfaction

Independent Variables	Dependent Variables	F	p	M
Gender	Education and Teaching	.217	.641	Males(3.17) Females(2.92)
	Campus	.650	.420	Males (3.23) Females(3.07)
	Utility and Relevance	.193	.661	Males(3.18) Females(3.00)
	Technology and Library	.556	.456	Males (3.19) Females(3.02)
	Admin, Support, and Flexibility	.093	.760	Males(3.21) Females(3.00)
	Social	.811	.368	Males(3.23) Females(2.95)
Identity	Education and Teaching	1.073	.343	International Students(3.35) Singapore Permanent Residents(2.93)

Independent Variables	Dependent Variables	F	p	M
	Campus	6.161	.002*	Singapore Citizens(2.74) International Students(3.56) Singapore Permanent Residents(3.22)
	Utility and Relevance	1.178	.309	Singapore Citizens(2.60) International Students(3.60) Singapore Permanent Residents(2.91)
	Technology and Library	.210	.810	Singapore Citizens(2.60) International Students(3.53) Singapore Permanent Residents(2.99)
	Admin, Support and Flexibility	.837	.434	Singapore Citizens(2.67) International Students(3.41) Singapore Permanent Residents(2.99)
	Social	1.357	.258	Singapore Citizens(2.80) International Students(3.63) Singapore Permanent Residents(3.06)
Grades	Education and Teaching	60.242	.000*	Singapore Citizens(2.76) 4th year(4.25) 2nd year(2.98)

Independent Variables	Dependent Variables	F	p	M
	Campus	48.583	.000*	3rd year(2.95)
				1st year(1.50)
				4th year(4.74)
				2nd year(3.09)
	Utility and Relevance	41.037	.000*	3rd year(2.94)
				1st year(1.55)
				4th year(4.77)
				2nd year(3.00)
	Technology and Library	43.865	.000*	3rd year(2.86)
				1st year(1.50)
				4th year(4.76)
				2nd year(2.98)
	Admin, Support and Flexibility	67.580	.000*	3rd year(2.91)
				1st year(1.56)
				4th year(4.25)
				2nd year(3.03)
	Social	42.941	.000*	3rd year(3.02)
				1st year(1.54)
				4th year(4.28)
				3rd year(3.01)
				2nd year(3.00)
				1st year(1.60)

N=600; p*=sig.<.05; M^a (1.00-1.80)= strongly unsatisfied; M^b (1.81-2.60)= unsatisfied; M^c (2.61-3.40)= general; M^d (3.41-4.20)= satisfied; M^e (4.21-5.00)= strongly satisfied

According to the statistics, gender was not significant difference with six factors (p>.05), then identity was a significantly difference with campus (p=.012*<.05), and Singapore citizens were unsatisfied with the campus factor (2.60). Thus, private higher education institutions in Singapore need to improve student satisfaction among campus for Singapore citizens. In addition, the grade was significant difference with the six factors (p<.05), then first-year students were strongly unsatisfied level (1≤ M≤ 1.80); thus, Singapore's private higher education institutions need to focus on advancing levels of satisfaction on the six factors to the first-year students.

Findings in the research objective four. In the final objective, the researcher would like to combinate previous significant findings to propose a suitable model to improve student satisfaction with Singapore's private higher education institutions.

First, from the findings of the first objective, by the statistical testing, the model suggested Singapore's private higher education institutions need to enhance student satisfaction and the bottom three factors: education & teaching, utility/ relevance, and technology/ library.

Second, as the results in the second objective, by the regression test, the model suggested

Singapore's private higher education institutions can conduct the three strongly influencing factors to enhance student satisfaction: education & teaching, campus, admin/ support/ flexibility.

Third, according to the third objective, by the statistics, the model suggested Singapore's private higher education institutions need to keep insights into the following matters: 1) to increase the level of satisfaction on campus to Singapore citizens; 2) to promote the level of satisfaction on six factors to the first-year students.

Fourthly, the proposed model includes three parts: the first part was demographics of students; the model concentrated the first-year students and Singapore citizens; the second part was the top three impact factors that can promote student satisfaction: education & teaching, campus, and admin/ support/ flexibility; the third part was a total level of student satisfaction in private higher education institution in Singapore. In conclusion, the model suggested that private higher education institutions in Singapore can consider the three leading factors: education & teaching, campus, and admin/ support/ flexibility to improve student satisfaction to the first-year students and students are Singapore citizens sustainably; furthermore, the model either suggested private higher education institutions in Singapore possibly improve the quality of three lower-ranking specifics in student satisfaction generally: education & teaching, utility/ relevance, and technology/ library.

Finally, the model validation. The researcher would design and adapt the evaluating model of Context, Input, Process, and Product (CIPP), which Daniel Stufflebeam developed in the 1960s; the model can apply in educational research; it can be measured by quantitative or qualitative (Stufflebeam & Zhang, 2017); thus, in the research, the researcher would like to design five questions into each one construct; thus, a total of 20 questions in the evaluating document, then, the researcher found five scholars learned university student development in Singapore to check whether the model can helpfully develop student satisfaction for undergraduate students in private higher education institutions in Singapore, each evaluating question was a five-point scale (1 to 5), attitudes from strongly disagree to strongly agree, later, the researcher would calculate average scores of each question into each construct level, then, in the section, the researcher could list model validation results, the five scholars given scores as the following:

Table7 Summary of Validation on the Evaluation Model

Constructs	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Total Average
Context	0.64	0.88	0.64	0.36	0.88	0.68
Input	0.64	0.52	0.52	0.68	0.80	0.63
Process	0.64	0.68	0.60	0.64	0.80	0.67
Product	0.68	0.40	0.80	0.84	0.52	0.65

N=5; Scores> 0.60 acceptable level, it means the term is valid

From the table, as the data reported, model validation results by five experts: context (0.68), input (0.63), process (0.67), and product (0.65), all four aspects of the model were valid, which means the model was valid by the given evaluation. Thus, the model can assist in improving student satisfaction for undergraduate students in private higher education institutions in Singapore.
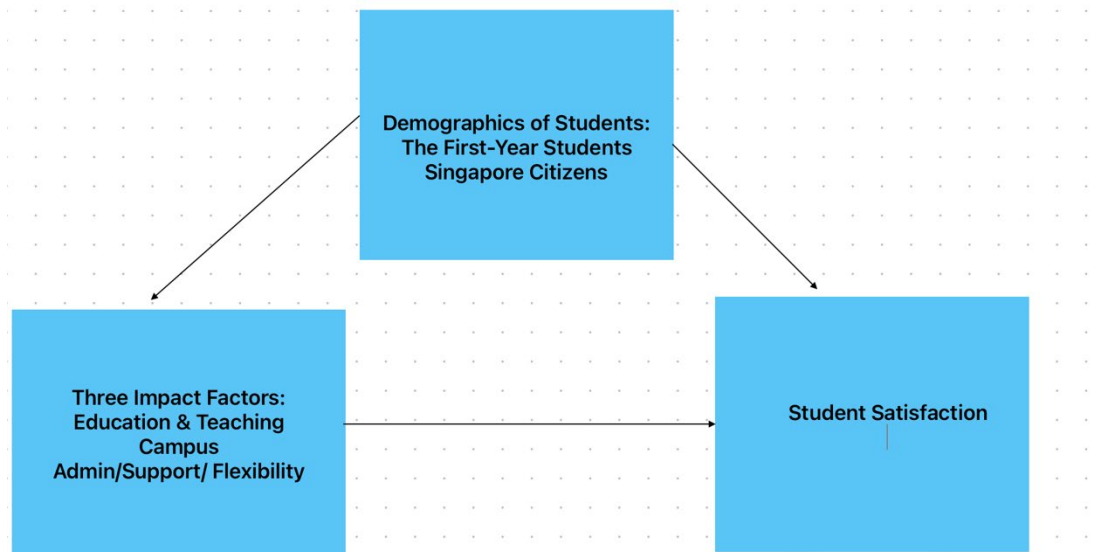
Figure2 The Proposed Model for Developing Student Satisfaction in Private Higher Education Institutions in Singapore

Conclusions, Discussions, Recommendations

Conclusion, in the first, the researcher found undergraduate students were general satisfied level with private higher education institutions in Singapore, by statistical ranking, there were three lower satisfactory factors: technology and library, utility and relevance, and education and teaching; in the second, the researcher found the six factors were significant relationship with student satisfaction in private higher education institutions in Singapore; in the third, the researcher found first-year students and Singapore citizens were at a lower level of satisfaction in the impact factors; in the final, the researcher selected significant findings to propose the model, the model included three parts: (1) demographic matters: the first-year students and Singapore citizens, (2) top three impact factors: education and teaching, campus, admin, support and flexibility, stakeholders and private higher education institutions in Singapore can exclusively improve quality of education and teaching, quality of campus, quality of admin, support and flexibility to increase the level of student satisfaction to the first-year students and Singapore citizens, as further, possibly, private higher education institutions need to improve quality of technology and library, quality of utility and relevance.

Discussions. Here would like to discuss what new learning the research contributed in comparison between published scholars and what major the research found as follow:

First, undergraduate students in private higher education institutions in Singapore were generally satisfied level in student satisfaction, especially the researcher either found undergraduates students the lowest level of satisfaction with education and teaching factors because covid-19 hit the nation, education institutions all conducted online learning method, it has been changed and challenged traditional learning methods and thinking ways in teaching methods, which took awareness and ideas in the adaption of education technology and learning objectives in Singapore, as well as, the adaptions of students' satisfaction would be reformed as the reasons (Akbari et al, 2022; Azizan et al, 2022; Lim et al, 2022), that might be influenced how student to evaluate their expectation and performance

attainments in higher education institutions, whatever public or private higher education academies.

Second, the research confirmed the six impact factors were significant relationship with students' satisfaction in private higher institutions in Singapore, related scholars indicated these six factors might be relationship with students' satisfaction in higher education institutions context(Luo et al, 2015; Chandra et al, 2019; Manzoor et al, 2021; Winstone et al, 2022), thus, the researcher confirmed the findings similar with the past scholars; However, by the statistical technique, the researcher found three strongly impact factors suitably in Singapore higher education context: education and teaching, campus, admin, support and flexibility, private higher institutions in Singapore can conduct to improve quality of these three specially, which can improve levels of students' satisfaction, studies told undergraduate students would concern to what and how they to attain during their higher education journey, education and teaching termed students cared quality of instructors, quality of course and curriculum design, what expectation and performance they attained and acquired to, campus included learning environmental elements, such as learning software and hardware, since these visible or invisible substances can directly influence whether they reach to learning expectation and performance (Manzoor et al, 2021), however, flexible and accessible ways to admin and support, it can assist to students to enroll to higher institutions easily, that may why undergraduate students in Singapore focused on quality of education and teaching, campus, admin, support and flexibility (Thoo et al, 2022).

Third, there was new learning: the researcher suggested private higher education institutions in Singapore need to consider improving student satisfaction among first-year students and students exclusively Singapore citizens; according to the statistical comparison, the research found the two characteristics students were a lower level of student satisfaction in the predictors in the research, for the reasons, scholars point said since the first-year students take a higher expectation in their higher education learning objectives and performance, which might be a relation with their pre-college experiences in learning, activities, and practices (Chandra et al, 2019; Heng et al, 2020; Azizan et al, 2022); However, primarily, Singapore citizen students, are potential leaders for the nation, they have a higher level of citizenship and social responsibilities to make the nation better than other identity student groups; thus, they highly focused on quality of higher education in Singapore (Luo et al, 2015; Chandra et al, 2019; Lim et al,2022).

Finally, another new learning the research contributed that was the researcher proposed the model to stakeholders and private higher education institutions in Singapore; the model suggested stakeholders and private higher education institutions in Singapore can improve the quality of education and teaching, quality of the campus, quality of admin, support and flexibility to enhance student satisfaction for undergraduate students in Singapore, in comparison, studies in the field often conduct survey research, focusing that told what levels of students' satisfaction or what factors can promote to (Chandra et al, 2019; Heng et al, 2020; Azizan et al, 2022; Thoo et al, 2022), however, the researcher employed quantitative analysis to propose the model and validate the model, it may helpfully for stakeholders and private higher education academies to develop their student satisfaction forwards.

Recommendation. According to limitations and delimitations in the research, here, there are recommendations to potential researchers: (1) potential researchers can explore specific predictors of student satisfaction since it can help the theoretical development of student satisfaction in higher education in Singapore or other countries similar to Singapore's social contexts; (2) potential researchers

can extend research scopes, such as another suitable research site, and recommend them to conduct multisite research; because of that, future researchers may conduct a comparative analysis to check what and whether there are differences in multisite; (3) Potential researchers can conduct theoretical and data triangulation; they can lead to mixed-method or meta-analysis research in a suitable law environment.

Conflict Statement in the Research

I authentically confirm that the research was conducted independently; there was no funding support from any individuals or groups; however, the research included my connections to assist in processing voluntarily (without rewards). Here really, thank them. Thus, there was no beneficial conflict in the research.

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