

# Students' Satisfaction with Public Services in Higher Education Institutions: The Case of Vietnam

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## Abstract

In the current competitive higher education environment in Vietnam, higher education institutions have focussed more on quality education services to improve students' satisfaction, which is considered an important factor for attracting and retaining students of these higher education institutions. This research aimed to examine Vietnamese students' satisfaction level about the quality of education services offered by the universities in 11 provinces in Vietnam. A total number of 25,631 students from those Vietnamese universities participated in the survey. The research results showed that the students were generally satisfied with the quality of education services provided by Vietnamese universities in those provinces. In addition, students' satisfaction of the quality of higher education services is influenced by three factors including educational activities, educational environment and access to education. The study also provided several implications, for those universities in particular and other Vietnamese higher education institutions in general, to enhance their education services to improve the level of education service quality for attracting and retaining students.

**Keyword:** Education services, higher education, students' satisfaction, Vietnam

## I. INTRODUCTION

Nowaday, almost all higher education institutions (HEIs) realize that quality of their education services is a vital target of HEIs' development which is closely related to students' satisfaction, and thus guarantees long-term sustainable success and achievements of those HEIs (Abiddin & Akinyemib, 2015; Bui et al., 2016; Cardona & Bravo, 2018; Govender et al., 2014; Tran et al., 2020). According to Annamdevula and Bellamkonda (2016), students are the important customers of the educational services offered by HEIs and hence their opinions should have a significant role in evaluating those HEIs. More importantly, education service quality is regularly considered as a crucial factor of success and an active and competitive advantage for all service providers including HEIs (Quraishi et al., 2017; Tran & Nguyen, 2019). Students' satisfaction on education services provided by HEIs has been a focus of various studies for the last few decades (Bui et al., 2016; Dinh et al., 2021; Jurkowitsch et al., 2006; Lounsbury et al., 2015; Nguyen et al., 2020; Postema & Markham, 2018; Tan & Kek, 2014; Tran & Nguyen, 2019; Tran et al., 2020; Tran et al., 2021; Yeo, 2009; Zineldin, 2017).

HEIs need detailed information on the quality of their provided education services in order to gain an overview of the education services they have provided and how those services meet students' growing needs, as well as to establish priorities for financial resource allocation and to improve marketing and operations plans in order to increase enrollments and admissions (Dinh et al., 2021; Lounsbury et al., 2015; Nguyen et al., 2020; Teeroovengadum et al., 2016, 2019; Zineldin, 2017). Regarding enrolled students as key consumers of HEI education services, it is necessary and appropriate to question those students how happy they are with the education services they receive at their HEIs in a systematic and appropriate manner (Cook, 1997; Darlaston-Jones et al., 2013; Demaris & Kritsonis, 2018; Jaafar et al. 2017; Lee & Tai, 2018; Santini et al. 2017).

Today, it is critical to implement appropriate strategies to improve their competitiveness in attracting and maintaining students by providing high-quality education services and seeking competitive advantages over other HEIs (Hayes, 2017; Postema & Markham, 2018; Tin et al., 2017). In fact, HEIs frequently have two key processes that are significantly dependent on the marketing strategy employed: The first is the admittance of good students after high school graduation, and the second is the retention of these students in their HEIs for registered training courses till graduation (Demaris & Kritsonis, 2018; Jain et al., 2010; Lee & Tai, 2018).

Students' retention is typically linked to their loyalty to their HEIs, as well as their happiness with the education services they have received (Brown & Mazzarol, 2019; Teeroovengadum et al., 2016, 2019; Tran et al., 2020; Tran et al., 2021). According to Hennig-Thurau et al. (2011), if students have a positive perception of and contentment with their HEIs, they are more likely to be satisfied with their HEIs, and hence their loyalty will remain high. Furthermore, student retention is linked to the idea of persistence, and Santini et al. (2017) hypothesized that students' overall satisfaction with the education services they got at their HEIs is a leading indication of HEI persistence.

It might be argued that the quality of education services is a major motivator and driver of marketing efforts in HEIs, and that it is closely linked to student satisfaction. Actually, the quality of education services may influence students' positive or negative sentiments toward their HEIs, as well as 'Word-of-Mouth Marketing' (Brown & Mazzarol, 2019; Dinh et al., 2021; Demaris & Kritsonis, 2018; Lee & Tai, 2018; Tran et al., 2020; Tran et al., 2021).

Students' happiness is linked to how they perceive and evaluate the expected and realistic outcomes, as well as the educational experiences they have at HEIs (Cardona & Bravo, 2018; Dinh et al., 2021; Elliott & Healy, 2011; Elliott & Shin, 2012; Nguyen et al., 2020). It is critical to consider students' satisfaction in HEIs from a more customer-oriented perspective in order for a training program to survive and improve in this competitive tertiary education sector, as this provides significant dimensions to planning activities and improvements of HEIs (DeShields et al., 2015; Tran & Nguyen, 2019).

According to Appleton-Knapp and Kentler (2016), there are two types of factors that influence students' satisfaction with HEI education services: institutional and personal aspects. Assessing the quality of training programs such as the curriculum, academic staff, and teaching methods, as well as the quality and promptness of lecturers' feedback as well as the clarity of their expectations, teaching staff quality, and infrastructure such as facilities, classrooms, campus, library, and so on are all

institutional factors. Gender, age, personal expectations, temperament, background, learning styles, and students' average grade point are all personal considerations (Appleton-Knapp & Kentler, 2016; Cardona & Bravo, 2018).

The SERVQUAL instrument (Parasuraman et al., 1985, 1988, 1994) has been widely utilized and highly praised in several studies to assess the quality of education services offered by higher education institutions. The SERVQUAL has been used to assess the quality of education services across five dimensions, as seen through the eyes of HEI staff or students: (1) tangibility, which includes physical facilities, equipment, and HEI staff appearance; (2) reliability, which includes the ability to deliver the promised education service on time and accurately; (3) responsiveness, which includes the willingness to assist students and provide prompt advice, support, and related services; (4) Competence, confidence, kindness, reliability, and security, as demonstrated by HEI staff; and (5) Empathy, as demonstrated by the ability to care for and provide individualized attention assistance to individual pupils (Oliveira & Ferreira, 2009; Parasuraman et al., 1985, 1988, 1994; Tan & Kek, 2014). Taking these five characteristics into account, the difference between students' expectations and perceptions of received service delivery quality is used to define education service quality. Students are generally unsatisfied when the quality of the experienced education service falls short of what they expected from the provided service (Parasuraman et al., 1985, 1988, 1994).

In Vietnam, several studies have researched the students' perceptions of the education service quality in Vietnamese HEIs such as Bui et al. (2016), Dinh et al. (2021), Le (2018), Nguyen (2013), Nguyen et al. (2020), Truong et al. (2016). Nguyen (2013) used the SERVQUAL scale to measure a Vietnamese HEI's quality of service, the findings of this study showed that the three specific dimensions of that Vietnamese university's higher education service included assurance, tangible elements, responsiveness, particular highly satisfied with the assurance dimension. The study of Hoang et al. (2018) measured students' satisfaction by using the SERVQUAL scale by Parasuraman et al. (1985). The key findings of this study showed that five elements in the SERVQUAL model affected the satisfaction of the students in the order of declining importance as follows: Tangibility, Assurance, Reliability, Empathy, and Responsiveness. They also realized that there were no differences between male and female student satisfaction and first-year students and fifth-year students (Hoang et al., 2018). Dinh et al. (2021) found that students had most satisfaction with educational service and educational environment in four universities in Hue city, Vietnam.

Overall, there have been quite numerous studies on the 'students' perceptions of the quality of education service at HEIs in the world as well as in Vietnam. However, no studies relating to students' satisfaction toward education service quality in a wide range of different universities in different provinces have been done so far as a generalization. To fill this gap, this research was conducted to explore the factors influencing students' perceptions of the quality of education service with 25,631 students from those Vietnamese universities in 11 provinces participated in the survey in Vietnam.

## II. MATERIAL AND METHODS

### *Measures and participants*

This research data collection lasted for three months, from September 2021 to December 2021. All participants were provided informed consent after receiving an explanation letter using the purpose

of the research. The ethics committee of each university in those 11 provinces in Vietnam, approved the research. First, social-demographic items introduced in the questionnaire. Then, Vietnamese 'students' perception of education service quality was measured by a total of 22 items. The responses of the participants provided in five different levels based on a 5-point Likert scale (Croasmun & Ostrom 2011).

The convenience sampling method used to recruit students who volunteered to answer the questionnaire survey. The questionnaires were distributed to 30,000 Vietnamese students (undergraduate and graduate ones) of 40 universities in 11 provinces in Vietnam, of which 25,631 questionnaires returned, for a 85.43 percent return rate, which exceeds the 30 percent response rate most researchers require for analysis (Dillman, 2000). The sample of this study drawn from 25,631 students who completed the survey instrument.

Province, City	Number of students returning the survey
Ha Noi	13,059
Thai Nguyen	713
Quang Ninh	649
Phu Tho	1,339
Nam Dinh	978
Nghe An	1,100
Da Nang	4,250
Quang Ngai	493
Ho Chi Minh city	1,447
Tien Giang	518
Vinh Long	1,085
<b>TOTAL</b>	<b>25,631</b>

Sample selection steps are as follows:

Step 1. Each university will randomly select 03 faculties to deliver the survey to their students.

Step 2. In each selected faculty, the number of students will be randomly selected for the survey

The survey on the satisfaction of students with public services in higher education includes the following 5 groups of criteria:

- Criteria for accessing educational services of universities: Information on admission, transfer; contributions following the regulations of the university;
- Criteria for the physical facilities of the university: Classrooms, equipment and teaching aids; level of safety and hygiene;
- Criteria group on the training environment of the university: Attitude, enthusiasm and fairness of lecturers in educational activities;
- Criteria for the training activities of the university: Organizing educational and training activities;
- Criteria group of educational outcome of the university: learning outcome; moral practice.

### **Data Analysis**

The Statistical Package for the Social Sciences (SPSS) version 22 was used for data analysis. The coding procedure was performed as follows: The questionnaires used a five-step scale (from 1 to 5). Accordingly, the value of each interval is calculated according to the following formula:

$$h = \frac{\text{Maximum} - \text{Minimum}}{n} - \frac{5 - 1}{5} = 0,8$$

From 1 to 1.80: Very low. (Very Unsuitable, Very Unsatisfied, Very bad...)

From 1.81 to 2.60: Low (Not suitable, Unsatisfied, Bad, ...)

From 2.61-3.80: Moderate (Wistful between “Low” and “Pretty High”)

From 3.81-4.20: Fairly high (Suitable, Good, Satisfied, ...)

From: From 4.21-5.0: Very High (Very suitable, Very good, Very satisfied,...).

### III. FINDINGS AND DISCUSSION

#### *Satisfaction mark*

Opinions of students studying at higher education institutions show that the criteria in 5 general assessment areas all show their satisfaction of public services which they are benefited. In the 5 assessed areas, all students studying at higher education institutions rated at satisfied level, in which “access to educational services” with an average mark of 4.04/5, the highest satisfaction mark. The criterion with the lowest average mark in 5 areas is Facilities and teaching equipment (average mark is 3.67/5 points at Satisfied level).

**Table 1. Satisfaction marks in all areas of university students**

Criteria	Satisfaction mark	Comment
<b>Access to educational services</b>	4.04	Satisfied
<b>Facilities and equipment for teaching</b>	3.67	Satisfied
<b>Educational environment</b>	4.02	Satisfied
<b>Educational activities</b>	3.94	Satisfied
<b>Students’ development and progress</b>	3.91	Satisfied
<b>Overall Satisfaction Mark (OSM)</b>	3.92	Satisfied

The criteria in each area are also assessed at Satisfied level. In the area of facilities and teaching equipment, the criterion that the toilet area for students is safe, clean, and has basic equipment has the lowest Satisfied mark out of 4 criteria (average mark reaches at 3.67/5 points).

**Table 2. Satisfaction mark of the criteria of university students**

Order	Criteria	Satisfaction mark	Comment
<b>A</b>	<b>Access to educational services</b>	4.04	Satisfied
	Providing complete and timely enrollment and admission information	4.17	Satisfied
	Convenient admission procedures	4.10	Satisfied
	Appropriate tuition fees and contributions according to the regulations of the university	3.82	Satisfied
	Good state policies to support special individuals (children of war invalids, martyrs, poor households, ethnic minorities, etc.)	4.08	Satisfied

Order	Criteria	Satisfaction mark	Comment
<b>B</b>	<b>Facilities and equipment for teaching</b>	3.67	Satisfied
	Classrooms, lecture halls meeting the good conditions in terms of area, electric fan, light, sound, hygiene, etc.	3.73	Satisfied
	The information technology system (computer, internet...) well supports teaching activities	3.53	Satisfied
	The library is full of books, reference materials, equipment, opening time	3.80	Satisfied
	Student dormitories meeting the requirements of area, facilities, safety, hygiene, ...	3.64	Satisfied
<b>C</b>	<b>Educational environment</b>	4.02	Satisfied
	The university focuses on receiving student feedback about the quality of its' educational services	3.89	Satisfied
	The relationship between the students is friendly, benevolent, and united	4.03	Satisfied
	The teachers offer advice to their students conscientiously and enthusiastically	4.11	Satisfied
	The natural environment is full of shade, light and clean air	4.03	Satisfied
	In the campus, the surrounding area is safe and healthy	4.04	Satisfied
<b>D</b>	<b>Educational activities</b>	3.94	Satisfied
	Credit-based training has effective and high quality	3.92	Satisfied
	Lecturers focus on developing self-study, self-research, creative thinking, practical skills, etc for students	3.97	Satisfied
	Forms and methods of assessing students' learning outcomes are diverse and objective	3.93	Satisfied
	Organizing a variety of career guidance activities (providing information, and job opportunities, seminars with employers, ...)	3.94	Satisfied
<b>E</b>	<b>The development and fulfillment of student citizenship</b>	3.91	Satisfied
	Students acquire knowledge, master professional skills and cultivate morality according to their own needs	3.85	Satisfied
	Students make a lot of progress in self-study, self-research skills, etc.	3.86	Satisfied
	Students have the ability to solve problems related to learning and real life	3.83	Satisfied

Order	Criteria	Satisfaction mark	Comment
	Students have communication skills, teamwork, adapt to the change of the labor market	3.90	Satisfied
	Students fulfill their obligations towards own their family; obligations of citizens in terms of economy, culture and society; human rights	4.11	Satisfied
	<b>Overall Satisfaction Mark (OSM)</b>	3.92	Satisfied

Satisfaction marks of students studying at higher education institutions in the provinces show that the level of student satisfaction in all criteria is at a good level. More specifically, it can be shown in the following areas:

Firstly, student satisfaction marks of the criterion “Access to training services”, are high, among the provinces with universities surveyed, 4 provinces have high Satisfaction marks and are assessed at Very Satisfied level are Tien Giang, Thai Nguyen, Nghe An and Quang Ngai with Satisfaction marks ranging from 4.235 to 4.48 points equivalent to Very Satisfied level. The provinces with the lowest satisfaction marks are Hanoi (satisfaction mark = 4.00 points) and Da Nang province with a satisfaction mark of 3.83 points. The provinces in the lowest group only reach at Satisfied level. Almost Students studying at higher education institutions rate at Satisfied (satisfaction mark from 3.83 to 4.16 points).

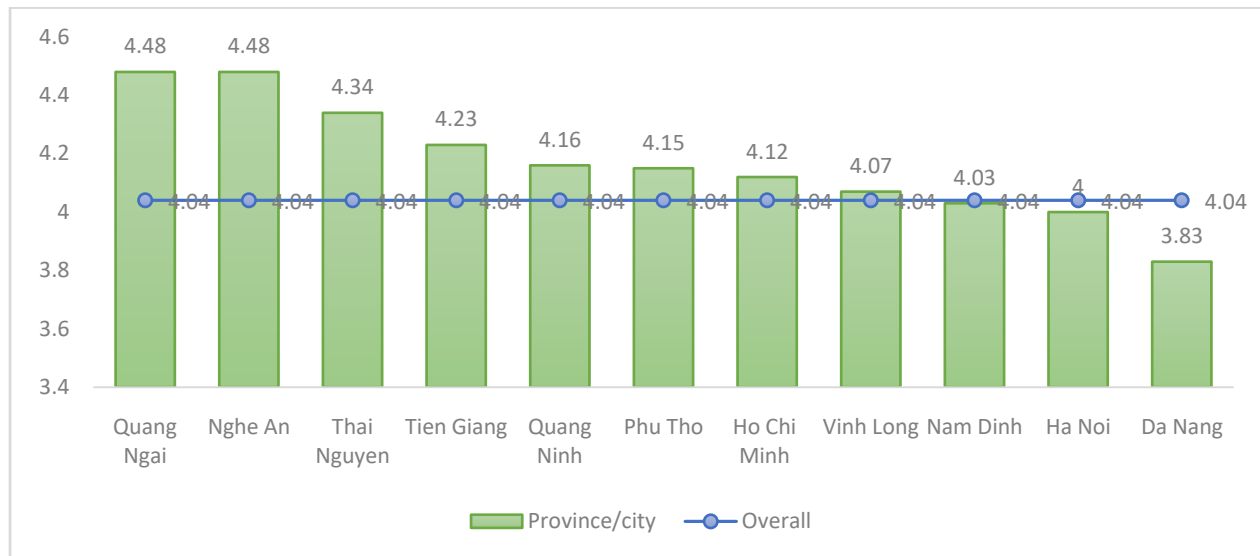
Secondly, students' satisfaction mark of the criterion “facilities and equipment for teaching” are quite good, only Nghe An province is evaluated with a mark at Very Satisfied level is 4.28 points. Remaining provinces are only assessed at Satisfied level. The provinces with the lowest satisfaction marks are Hanoi and Da Nang with satisfaction marks ranging from 3.36 and 3.621 points. The remaining provinces all have satisfaction scores ranging from 3.66 points to 4.13 points. The average marks of the provinces also show that, satisfaction marks of the criterion “facilities and teaching equipment” are lower than in others and all provinces are only rated at Satisfied level;

Third, satisfaction students' marks of the criterion “Educational Environment Student” in the provinces with the highest Satisfaction marks are Quang Ngai and Nghe An whose satisfaction marks reach at 4.33 points and 4.46 points respectively (equivalent to Very Satisfied level). The next provinces all rate at satisfied level, of which the province with the lowest satisfaction mark is Vinh Long (satisfaction mark = 3.93 points) and Da Nang province (satisfaction mark = 3.82 points). The remaining provinces all have satisfaction marks ranging from 3.99 points to 4.20 points. Most provinces rate at Satisfied level.

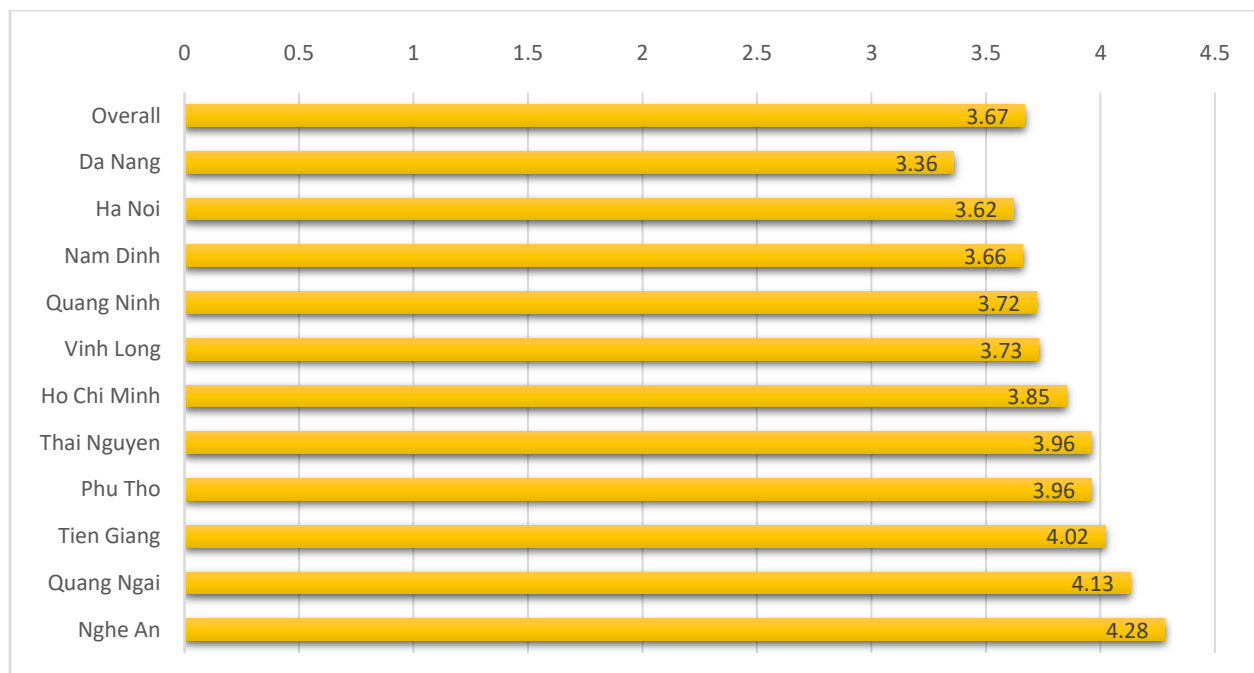
Fourth, students' satisfaction marks of the criterion “Educational activities”, the provinces with the highest Satisfaction marks are Tien Giang, Quang Ngai and Nghe An provinces with an evaluation mark of 4.22 to 4.53 points equivalent to Very Satisfied level. The remaining provinces have an assessment mark at Satisfied level. In which, the province with the lowest satisfaction mark is Da Nang province with a satisfaction mark of 3.68 points. The remaining provinces all have satisfaction scores ranging from 3.90 points to 4.17 points, which is at Satisfied level.

Finally, in the criterion for the development and fulfillment of student citizenship, satisfaction marks of students studying at higher education institutions in the provinces has the highest satisfaction scores in Tien Giang, Quang Ngai and Nghe An with a rating of Very Satisfied (from 4.21 to 4.35 points). The remaining provinces have an assessment mark at satisfied level. In which, the province

with the lowest satisfaction mark is Da Nang with a satisfaction mark of 3.75 points. The remaining provinces all have satisfaction scores ranging from 3.87 points to 4.14 points, which rate is at Satisfied level.

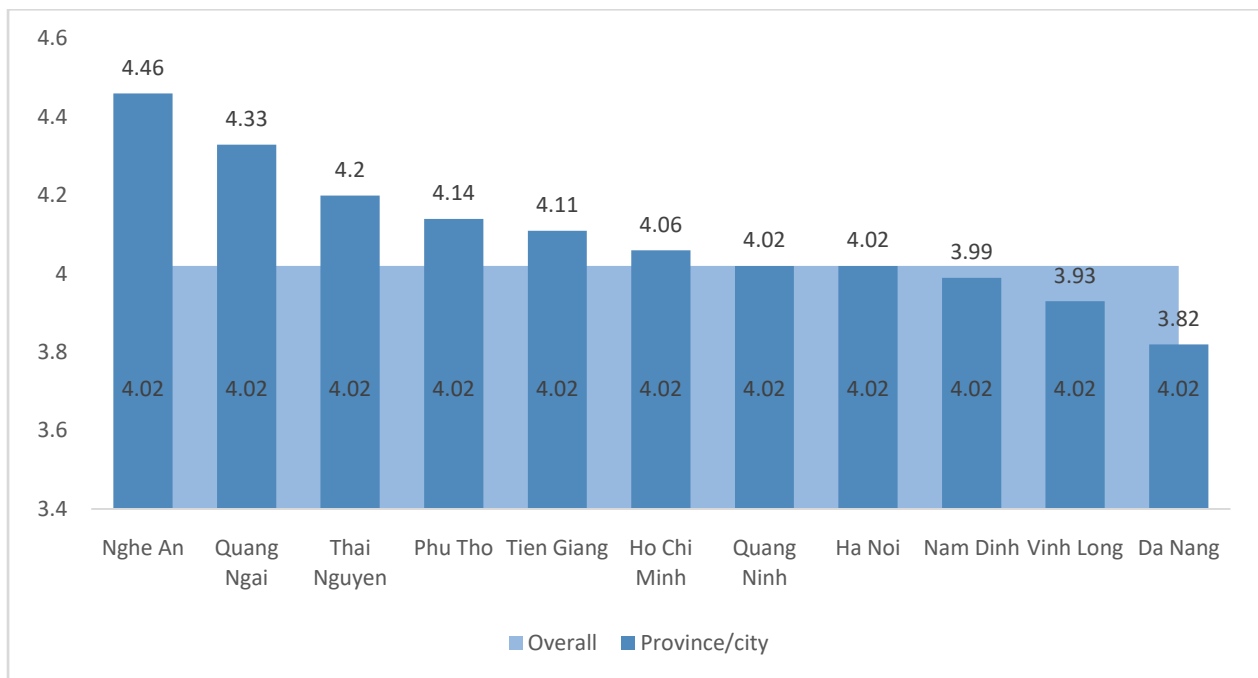


**Figure 1. Satisfaction marks of the criterion “Access higher education”**

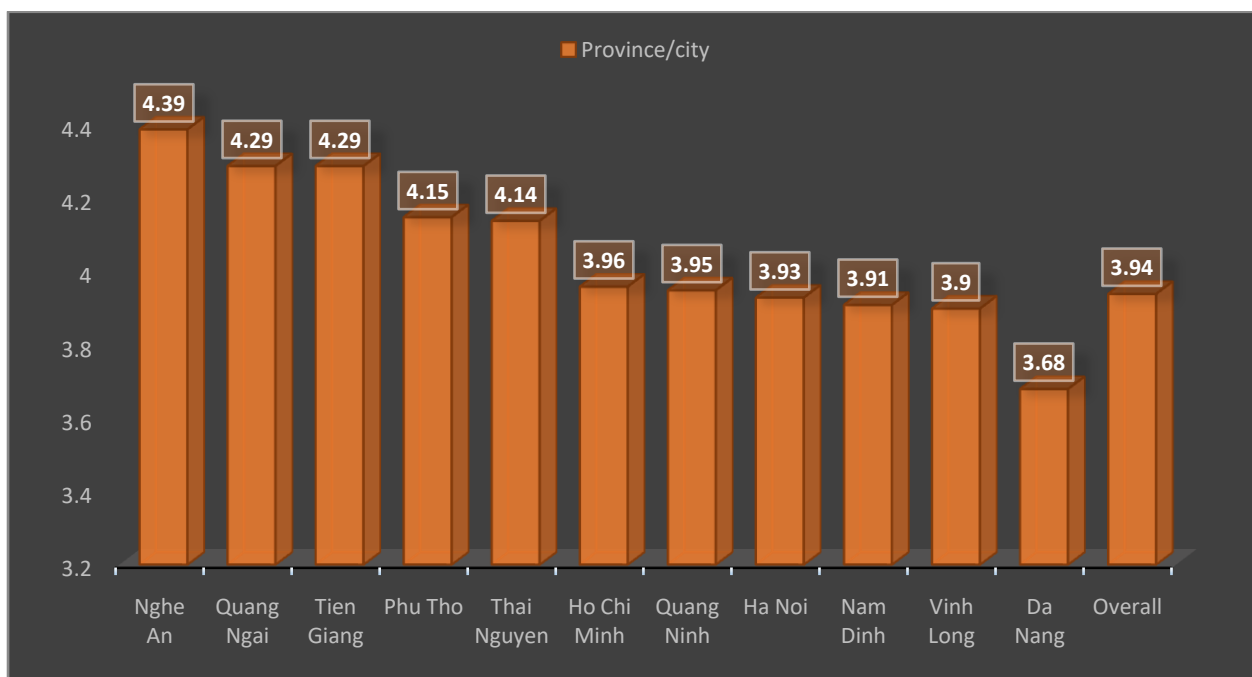


**Figure 2. Satisfaction marks of the criterion “Facilities and equipment for teaching”**

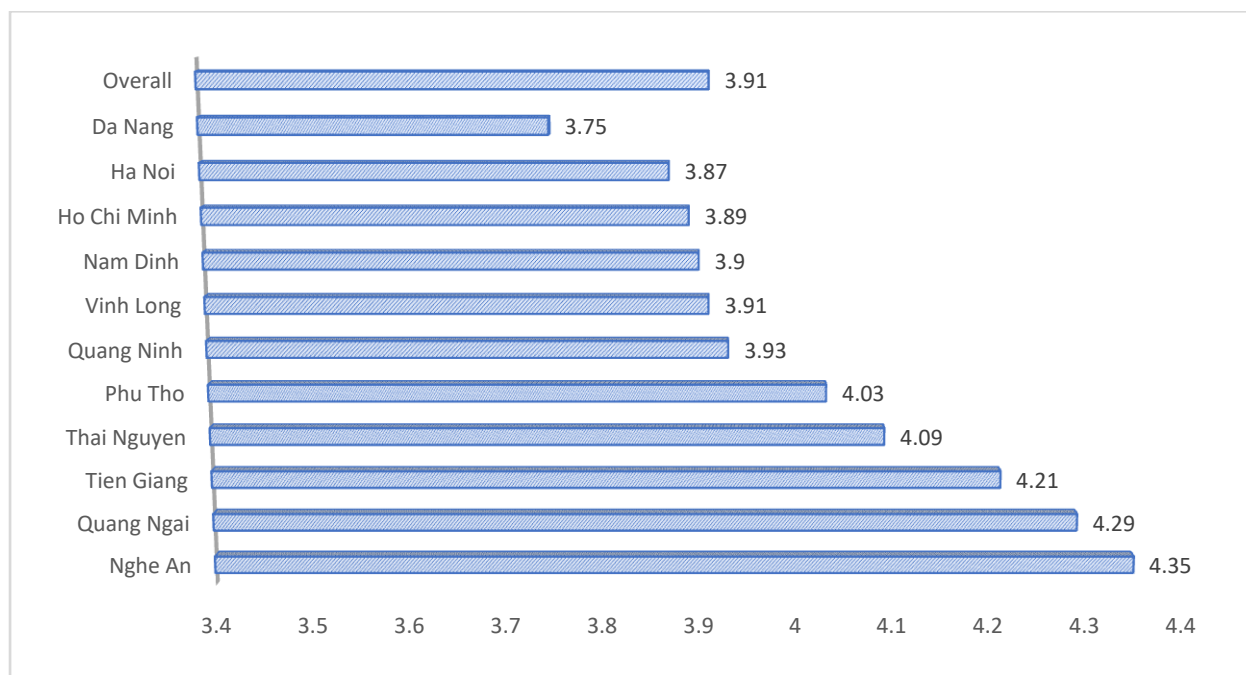




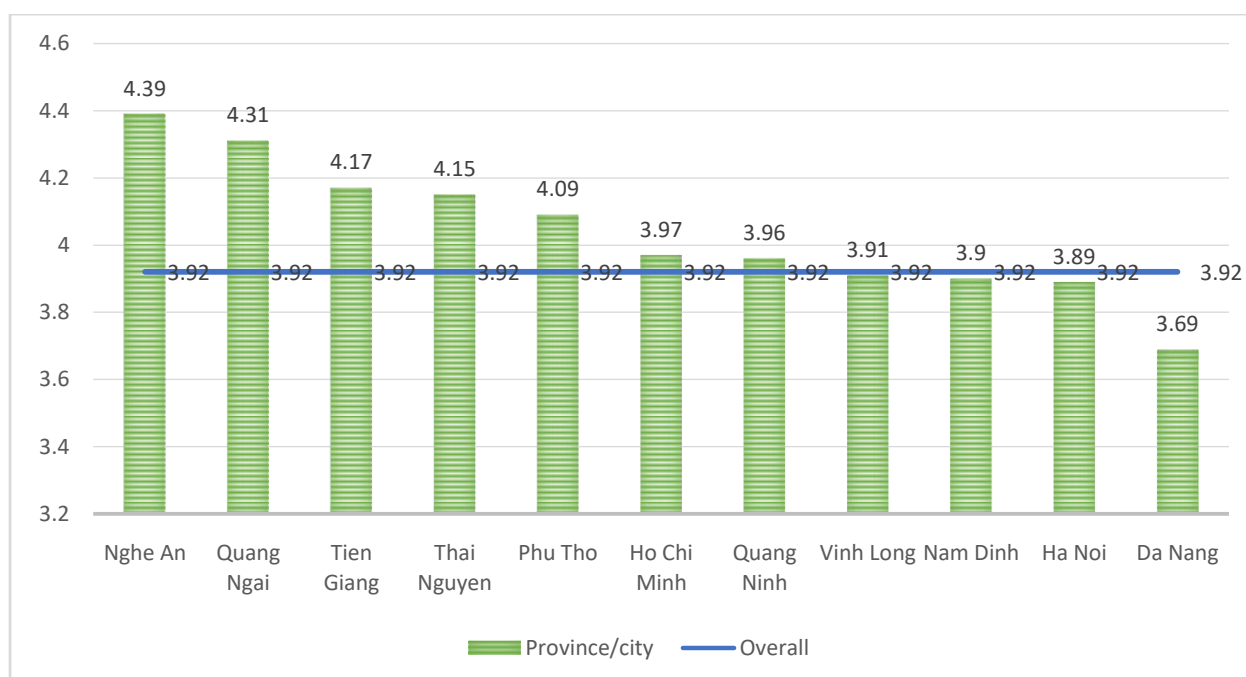
**Figure 3. Satisfaction marks of the criterion “Educational environment”**



**Figure 4. Satisfaction marks of the criterion “Educational activities”**



**Figure 5. Satisfaction marks of the criterion “The development and fulfillment of student citizenship”**



**Figure 6. Overall Satisfaction marks of students**

Overall of the 5 assessed areas, the overall satisfaction marks of the provinces/cities show the satisfaction level of students, postgraduate students studying at higher education institutions. The provinces with the highest Satisfaction marks are Quang Ngai and Nghe An provinces with an evaluation mark at Very Satisfied level (evaluation marks are 4.31 and 4.39 points, respectively). The remaining provinces have assessment marks at satisfied level. In which, the province/city with the lowest satisfaction score is Da Nang with a satisfaction mark of 3.69 points. The remaining

provinces/cities all have satisfaction marks ranging from 3.89 points to 4.17 points, which are rated at satisfied level.

**Figure 7. University Student satisfaction marks by gender**

Order	Criteria	Male		Female	
		Satisfaction mark	Comment	Satisfaction mark	Comment
<b>A</b>	<b>Access to educational services</b>	4.05	Satisfied	4.03	Satisfied
<b>1</b>	Providing complete and timely enrollment and admission information	4.14	Satisfied	4.19	Satisfied
<b>2</b>	Convenient admission procedures	4.07	Satisfied	4.11	Satisfied
<b>3</b>	Appropriate tuition fees and contributions according to the regulations of the university	3.89	Satisfied	3.77	Satisfied
<b>4</b>	Good state policies to support special individuals (children of war invalids, martyrs, poor households, ethnic minorities, etc.)	3.73	Satisfied	3.63	Satisfied
<b>B</b>	<b>Facilities and equipment for teaching</b>	4.09	Satisfied	4.07	Satisfied
<b>5</b>	Classrooms, lecture halls meeting the conditions in terms of area, electric fan, light, sound, hygiene, etc.	3.77	Satisfied	3.70	Satisfied
<b>6</b>	The information technology system (computer, internet...) well supports teaching activities	3.61	Satisfied	3.47	Satisfied
<b>7</b>	The library is full of books, reference materials, equipment, opening time	3.86	Satisfied	3.75	Satisfied
<b>8</b>	Student dormitories meeting the	4.03	Satisfied	4.01	Satisfied

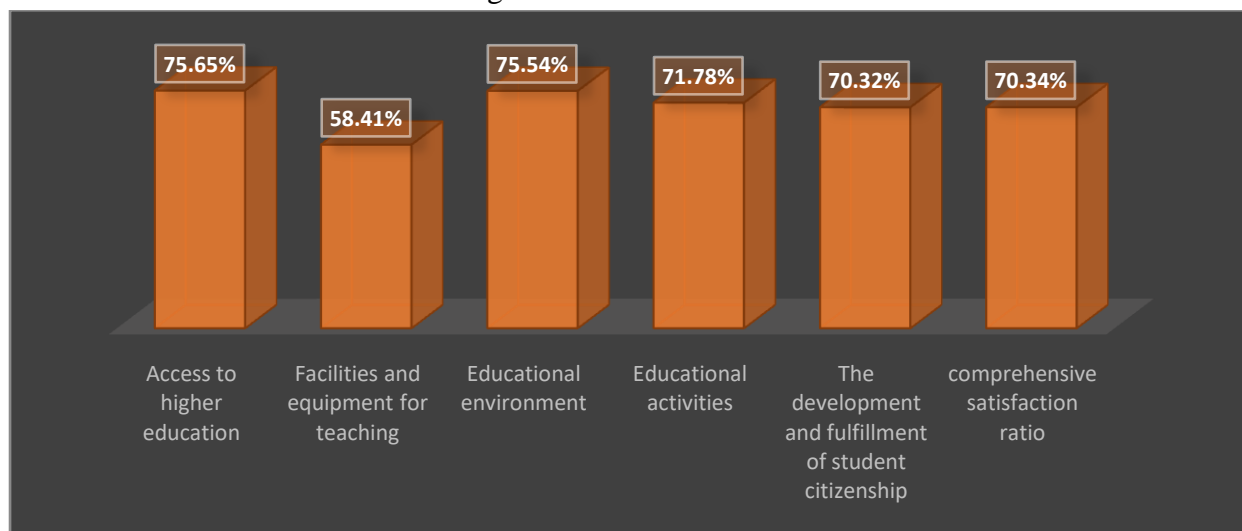
Order	Criteria	Male		Female	
		Satisfaction mark	Comment	Satisfaction mark	Comment
	requirements of area, facilities, safety, hygiene, etc				
<b>C</b>	<b>Educational environment</b>	3.69	Satisfied	3.59	Satisfied
<b>9</b>	The university focuses on receiving student feedback about the quality of its' educational services	3.91	Satisfied	3.88	Satisfied
<b>10</b>	The relationship between the students is friendly, benevolent, and united	4.03	Satisfied	4.04	Satisfied
<b>11</b>	The teachers offer advice to students conscientiously and enthusiastically	4.07	Satisfied	4.14	Satisfied
<b>12</b>	The natural environment is full of shade, light and clean air	3.96	Satisfied	3.92	Satisfied
<b>13</b>	In the campus, the surrounding area is safe, healthy	4.06	Satisfied	4.01	Satisfied
<b>D</b>	<b>Educational activities</b>	4.08	Satisfied	4.00	Satisfied
<b>14</b>	Credit-based training has effective and high quality	3.96	Satisfied	3.89	Satisfied
<b>15</b>	Lecturers focus on developing self-study, self-research, creative thinking, practical skills, etc for students	3.96	Satisfied	3.98	Satisfied
<b>16</b>	Forms and methods of assessing students' learning outcomes are diverse and objective	3.94	Satisfied	3.91	Satisfied
<b>17</b>	Organizing a variety of career guidance	3.97	Satisfied	3.92	Satisfied

Order	Criteria	Male		Female	
		Satisfaction mark	Comment	Satisfaction mark	Comment
	activities (providing information, and job opportunities, seminars with employers, ...)				
<b>E</b>	<b>The development and fulfillment of student citizenship</b>	3.96	Satisfied	3.87	Satisfied
<b>18</b>	Students acquire knowledge, master professional skills and cultivate morality according to their own needs	3.93	Satisfied	3.79	Satisfied
<b>19</b>	Students make a lot of progress in self-study, self-research skills, etc.	3.92	Satisfied	3.81	Satisfied
<b>20</b>	Students have the ability to solve problems related to learning and real life	3.90	Satisfied	3.78	Satisfied
<b>21</b>	Students have communication skills, teamwork, adapt to the change of the labor market	3.94	Satisfied	3.87	Satisfied
<b>22</b>	Students fulfill their obligations towards own their family; obligations of citizens in terms of economy, culture and society; human rights	4.10	Satisfied	4.12	Satisfied
	<b>Overall Satisfaction Mark (OSM)</b>	3.95	Satisfied	3.89	Satisfied

Among the 5 assessment areas, the criterion “educational Environment” and “Access to higher Education” are rated high by parents and students, and the area is rated at the lowest Satisfaction level in 5 areas is “facilities and equipment for teaching”. This shows that there are still some issues related facilities and teaching equipment that need attention and adjustment in educational institutions in order to improve the quality of education and people's satisfaction of public services.

### *Satisfaction rate*

The survey results of the student satisfaction rate for public education services in higher education institutions are shown in the following chart:



**Figure 8. Satisfaction rate of university students**

The figure shows that most of the students have a satisfaction rate at pretty average level. 4 areas have a fairly average percentage of satisfaction (accounting for 70% or more), the area with the lowest percentage of satisfaction in 5 areas is Facilities, equipment for teaching, only accounting for 58.41% in average. In which, the evaluation criteria for the information technology system (computer, internet...) that support the teaching and learning activities is the lowest percentage of satisfaction, only 52.82% on average. Next, the criterion “Library is full of textbooks, reference materials, equipment, ...” also has a low satisfaction rate, which reaches at 68.89%, The following criterion is Student Dormitory meeting requirements of area, utilities, safety, hygiene, etc. are also at average level (accounting for 55.05%), other criteria in the area of facilities are also quite average (over 60%). The other criteria of the areas all have satisfaction percentages at 71% or higher. This value shows that facilities need to be concerned and improved in terms of quantity and quality.

**Table 3. University student satisfaction rate**

Order	Criteria	Overall satisfaction rate
<b>A</b>	<b>Access to educational services</b>	75.65
	Provide complete and timely enrollment and admission information	82.04
	Convenient admission procedure	79.10
	Appropriate tuition fees and contributions according to the regulations of the university	64.63
	Good state policies to support special subjects (children of war invalids, martyrs, poor households, ethnic minorities, etc.)	76.84
<b>B</b>	<b>Facilities and equipment for teaching</b>	58.41

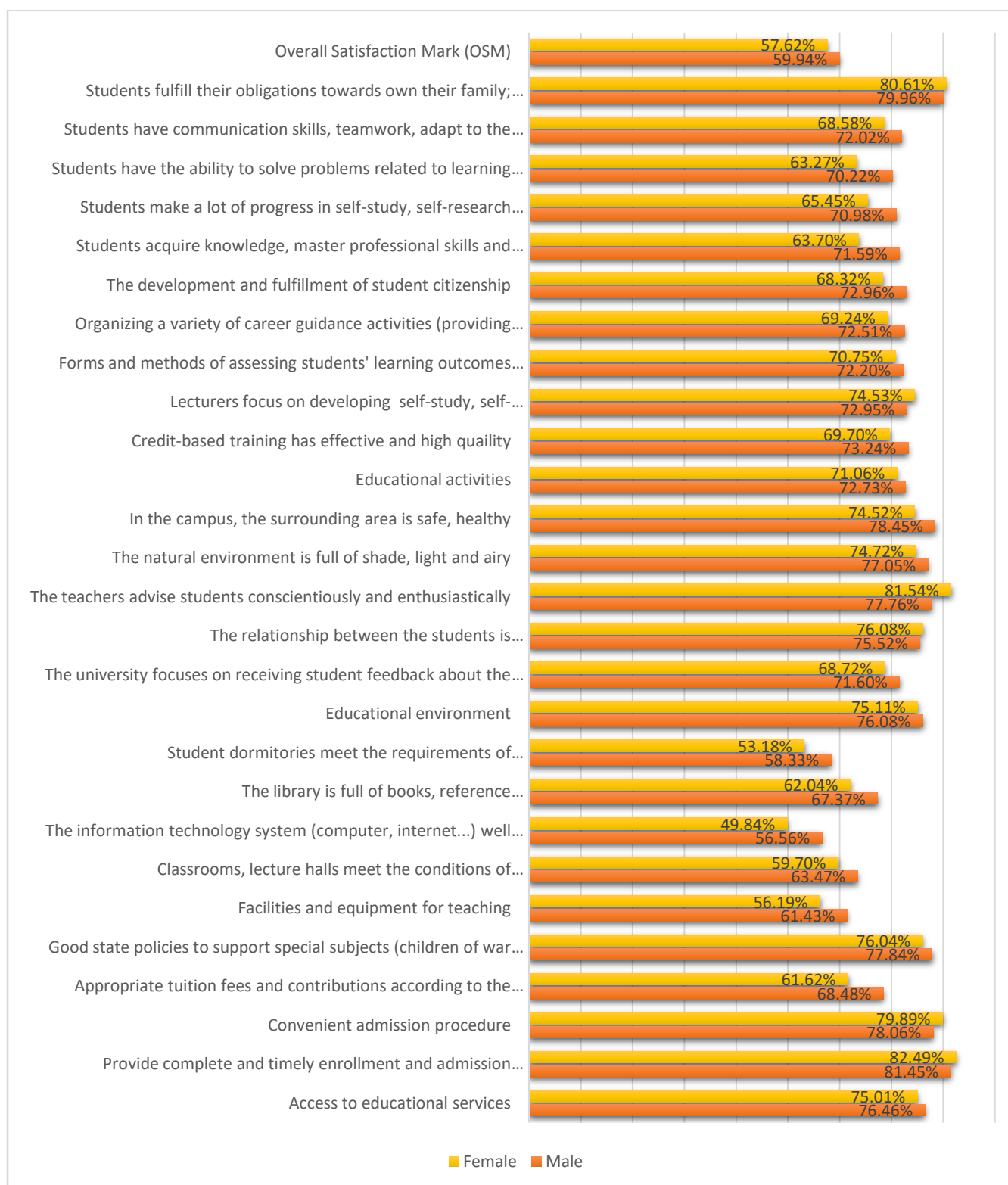
Order	Criteria	Overall satisfaction rate
	Classrooms, lecture halls meet the conditions of area, solidity, electric fan, light, sound, hygiene, etc.	61.39
	The information technology system (computer, internet...) well supports teaching activities	52.82
	The library is full of books, reference materials, equipment, opening time	64.37
	Student dormitories meet the requirements of area, facilities, safety, hygiene, ...	55.05
<b>C</b>	<b>Educational environment</b>	75.54
	The university focuses on receiving student feedback about the quality of its' educational services	69.96
	The relationship between the students is friendly, benevolent, and united...	75.85
	The teachers advise students conscientiously and enthusiastically	79.95
	The natural environment is full of shade, light and airy	75.74
	In the campus, the surrounding area is safe, healthy	76.20
<b>D</b>	<b>Educational activities</b>	71.78
	Credit-based training has effective and high quality	71.25
	Lecturers focus on developing self-study, self-research, creative thinking, practical skills, ... for students	73.85
	Forms and methods of assessing students' learning outcomes are diverse and objective	71.36
	Organizing a variety of career guidance activities (providing information, and job opportunities, seminars with employers, ...)	70.65
<b>E</b>	<b>The development and fulfillment of student citizenship</b>	70.32
	Students acquire knowledge, master professional skills and cultivate morality according to their own needs	67.14
	Students make a lot of progress in self-study, self-research skills, etc.	67.84
	Students have the ability to solve problems related to learning and real life	66.28
	Students have communication skills, teamwork, adapt to the change of the labor market	70.04
	Students fulfill their obligations towards own their family; obligations of citizens in terms of economy, culture and society; human rights	80.32
	<b>Comprehensive satisfaction rate (CSR)</b>	70.34

Table 4. Satisfaction rate of university students by gender

Order	Criteria	Overall satisfaction rate	
		Male	Female
<b>A</b>	<b>Access to educational services</b>	<b>76.46%</b>	<b>75.01%</b>
	Provide complete and timely enrollment and admission information	81.45%	82.49%
	Convenient admission procedure	78.06%	79.89%
	Appropriate tuition fees and contributions according to the regulations of the university	68.48%	61.62%
	Good state policies to support special subjects (children of war invalids, martyrs, poor households, ethnic minorities, etc.)	77.84%	76.04%
<b>B</b>	<b>Facilities and equipment for teaching</b>	<b>61.43%</b>	<b>56.19%</b>
	Classrooms, lecture halls meet the conditions of area, solidity, electric fan, light, sound, hygiene, etc.	63.47%	59.70%
	The information technology system (computer, internet...) well supports teaching activities	56.56%	49.84%
	The library is full of books, reference materials, equipment, opening time	67.37%	62.04%
	Student dormitories meet the requirements of area, facilities, safety, hygiene, ...	58.33%	53.18%
<b>C</b>	<b>Educational environment</b>	<b>76.08%</b>	<b>75.11%</b>
	The university focuses on receiving student feedback about the quality of its' educational services	71.60%	68.72%
	The relationship between the students is friendly, benevolent, and united...	75.52%	76.08%
	The teachers advise students conscientiously and enthusiastically	77.76%	81.54%
	The natural environment is full of shade, light and air	77.05%	74.72%
	In the campus, the surrounding area is safe, healthy	78.45%	74.52%
<b>D</b>	<b>Educational activities</b>	<b>72.73%</b>	<b>71.06%</b>
	Credit-based training has effective and high quality	73.24%	69.70%
	Lecturers focus on developing self-study, self-research, creative thinking, practical skills, ... for students	72.95%	74.53%
	Forms and methods of assessing students' learning outcomes are diverse and objective	72.20%	70.75%
	Organizing a variety of career guidance activities (providing information, and job opportunities, seminars with employers, ...)	72.51%	69.24%
<b>E</b>	<b>The development and fulfillment of student citizenship</b>	<b>72.96%</b>	<b>68.32%</b>



Order	Criteria	Overall satisfaction rate	
		Male	Female
	Students acquire knowledge, master professional skills and cultivate morality according to their own needs	71.59%	63.70%
	Students make a lot of progress in self-study, self-research skills, etc.	70.98%	65.45%
	Students have the ability to solve problems related to learning and real life	70.22%	63.27%
	Students have communication skills, teamwork, adapt to the change of the labor market	72.02%	68.58%
	Students fulfill their obligations towards own their family; obligations of citizens in terms of economy, culture and society; human rights	79.96%	80.61%
	<b>Overall Satisfaction Mark (OSM)</b>	<b>59.94%</b>	<b>57.62%</b>



**Figure 9. Satisfaction rate of university students**

According to the above table, it shows that the satisfaction rate of students by gender does not differ much, and the figure also shows that the criterion in the area of facilities and equipment for teaching has a lower satisfaction rate than the criteria in other areas, only achieving a Satisfaction rate at average level. This shows that investing in facilities and learning equipment is extremely necessary.

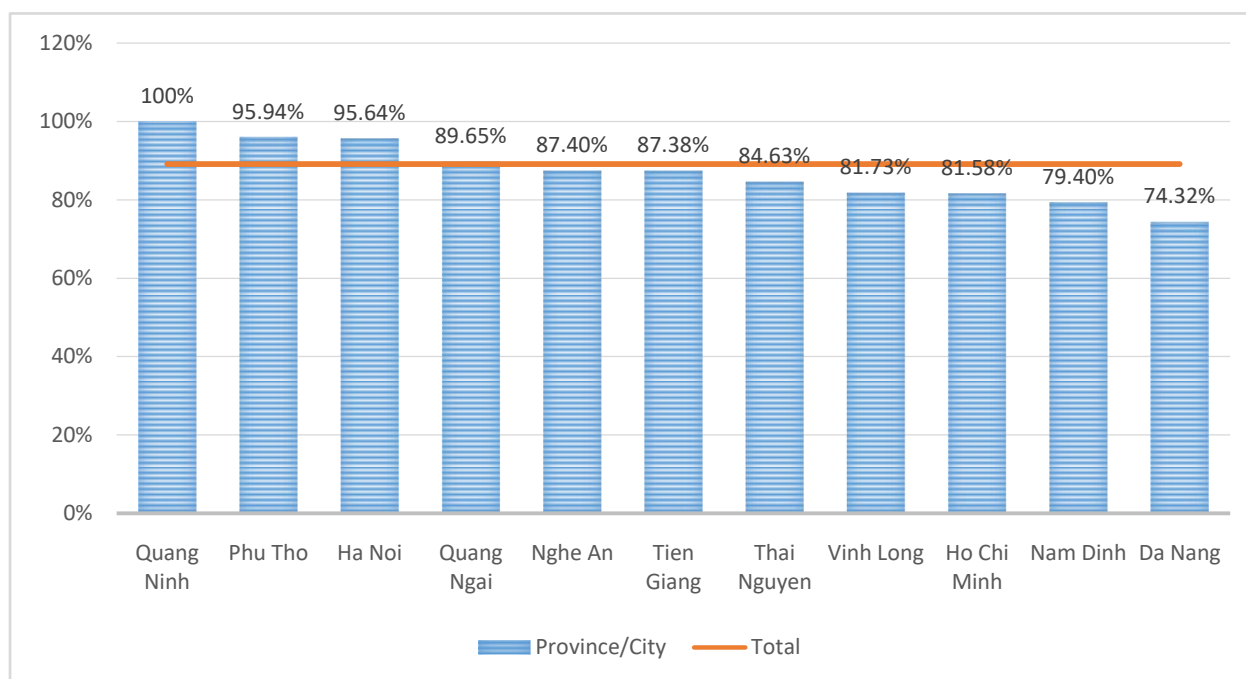
Through the survey data, it is shown that in the 5 assessed areas, the area of facilities and equipment for teaching is rated less satisfied than other areas, this is more clearly at the higher education level such as senior secondary school, continuing education and Colleges and Universities. At the senior secondary schools, the assessment level is satisfied with the satisfaction rate at an above average level, but in the continuing education, colleges and universities, the assessment level is only average.

#### ***Rate of response to expectations***

In order to find out the level of satisfaction compared to the expectations of the students, we surveyed the response rates compared to the expectations of the provinces and obtained the following results:

**Table 5. Rate of response compared to expectations of students**

University Students	Mean	Std. Deviation
Ha Noi	95.64	8.855
Thai Nguyen	84.63	13.111
Quang Ninh	100.00	0.000
Phu Tho	95.94	11.555
Nam Dinh	79.40	13.344
Nghe An	87.40	13.783
Da Nang	74.32	14.026
Quang Ngai	89.65	8.999
TP Ho Chi Minh	81.58	15.033
Tien Giang	87.38	3.275
Vinh Long	81.73	11.187



<b>Total</b>	<b>89.10</b>	<b>13.794</b>
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**Figure 10. Rate of response to university student expectations**

The evaluation of students' opinions show that public services meet the expectations of students participating in learning at higher educational institutions. The average values of the comments are all high, accounting for 89.10%. Nam Dinh and Da Nang provinces are the two provinces/cities with the lowest satisfaction rates among the surveyed provinces, while Phu Tho and Quang Ninh provinces have the highest expected rates among the surveyed provinces.

***Satisfaction model about educational services in higher education***

The scale of people's satisfaction of the quality of public education services in the higher education system consists of 5 components and 22 criteria.

Cronbach's Alpha reliability of 22 acceptable criteria, namely: component A from 0.74 to 0.78; component B from 0.75 to 0.79; C components C are 0.8 and 0.81; component D from 0.80 to 0.83; and the component E from 0.85 to 0.87.

EFA analysis shows that all 22 criteria of 5 components are retained in the final model, namely: The component criteria A explains 63.5% of the variability of the data, the coefficient KOM = 0.77; component B explains 64.4% of the variability of the data and the coefficient KOM = 0.781; component C explains 60.3% of the variation of the data and the coefficient KOM = 0.838; component D explains 69.6% of the variation of the data and the coefficient KOM = 0.822; component E explained 67.8% of the variability of the data and KOM = 0.872.

All 22 criteria belonging to 5 components included in the final estimation model only explain 1.2% of the variation in people's satisfaction of public education services in higher education ( $R^2 = 0.012$ ). None of the components is important for people's satisfaction of higher education services. Two components B, E have no statistical significance (Sig. = 0.4 and Sig. = 0.3) so they have no impact on the dependent variable (see the table below).

**Table 6. Regression coefficient of the model of people's satisfaction in higher education services**

Model	Unstandardized coefficients		Standardized coefficients	Sig.	Collinearity statistics	
	Beta	Std. Error	Beta		Tolerance	VIF
(Constant)	86.25	0.12		0.00		
C. Educational activities	1.49	0.22	0.07	0.00	0.32	3.08
D. Educational environment	1.26	0.23	0.06	0.00	0.30	3.34
B. Facilities and equipments	0.15	0.18	0.01	0.40	0.48	2.07
E. Education outcomes	-0.21	0.20	-0.01	0.30	0.40	2.51
A. Access to education	-0.57	0.19	-0.03	0.00	0.44	2.26

After removing the two components that have no impact on satisfaction above, the model has 3 components and gives the results in Table 7. The people's satisfaction index of the quality of educational services of the higher education system is calculated according to the following method (see the table below):

CSHL\_ Higher Education =  $86.34 + 1.48 * \text{Educational environment} + 1.19 * \text{Educational activities} - 0.54 * \text{Access to education}$

Model	Unstandardized coefficients		Standardized coefficients	Sig.	Collinearity statistics	
	Beta	Std. Error	Beta		Tolerance	VIF
(Constant)	86.34	0.12		0.00		
C. Educational activities	1.48	0.21	0.07	0.00	0.36	2.80
D. Educational environment	1.19	0.20	0.06	0.00	0.36	2.75
A. Access to education	-0.54	0.18	-0.03	0.00	0.47	2.12

### *Satisfaction index for educational institutions*

There are 21 universities from 12 provinces and cities which send valid data on satisfaction assessment to the Ministry of Education and Training. In which, Hanoi has the most universities (5 universities), followed by Da Nang (4 universities), the rest is almost 1 school per province.

The student satisfaction index of the quality of educational services provided by each university. It can be seen that there are 11/21 schools (52.4%) with a satisfaction index of average or higher, in which the highest is Vinh University (64.17) and the lowest is the University of Foreign Languages - the University of Danang (43.09).

The scale of people's satisfaction about the quality of public educational services in the higher education system consists of 5 components and 22 criteria (table 7).

**Table 7. Criteria for assessing satisfaction with public educational services**

Component	Criteria
<i>A. Access to education</i>	Completeness, accuracy and timeliness of information on administrative procedures, admission and school transfer procedures
	Convenience of administrative procedures, admission and school transfer procedures
	Convenience level of educational institutions location
	Revenues according to: (i) state regulations; (ii) regulations of the school or the Parents Association
<i>B. Facilities and equipment</i>	Classroom conditions
	Conditions of function room
	Conditions for application of information technology in education activities
	Conditions on equipment for teaching and learning
	Response of the library to textbooks and reference books
	Conditions of Playground
	Sanitary conditions
<i>C. Educational activities</i>	The relevance of educational curriculum and textbooks and reference books
	Education and teaching activities; Teachers' teaching methods

	Forms and methods of assessment and assessment of learning outcomes
	Extracurricular activities; organize breaks between school lessons and shifts for students (primary school); organize tutoring for weak students (middle school and high school)
<i>D. Educational environment</i>	Equity in educational activities, in testing and assessing student learning outcomes
	Transparency and openness in educational activities
	Relationships in school: between students and students, between teachers and students, between families and schools
	Safety and friendliness of the social and natural environment
<i>E. Educational output</i>	Learning Outcomes
	Adaptability of students
	Ability to perform civic duties

Cronbach's Alpha reliability of 22 acceptable criteria, namely: component A is from 0.74 to 0.78; component B is from 0.75 to 0.79; component C is 0.8 and 0.81; component D is from 0.80 to 0.83; and the component E is from 0.85 to 0.87.

EFA analysis shows that all 22 criteria of 5 components, namely: The component criteria A explains 63.5% of the variability of the data, the coefficient KOM = 0.77; component B explains 64.4% of the variability of the data and the coefficient KOM = 0.781; component C explains 60.3% of the variation of the data and the coefficient KOM = 0.838; component D explains 69.6% of the variation of the data and the coefficient KOM = 0.822; component E explained 67.8% of the variability of the data and KOM = 0.872.

All 22 criteria belonging to 5 components included in the final estimation model only explain 1.2% of the variation in people's satisfaction of public education services in higher education ( $R^2 = 0.012$ ). None of the components is important for people's satisfaction of higher education services. Two components B, E have no statistical significance (Sig. = 0.4 and Sig. = 0.3) so they have no impact on the dependent variable (see the table below).

#### IV. CONCLUSION

This research examined Vietnam student's perception of service quality and to evaluate scientifically and objectively the quality of supply services of 40 HEIs in 11 provinces/cities in Vietnam. Based on the findings of this result, nearly the majority of students are satisfied with the service quality being provided. The student's field satisfaction scores with the highest scores were access to educational services and educational environment, and the lowest score was facilities, teaching equipment. The findings are consistent with the previous study for Vietnamese students (Bui et al. 2016; Dinh et al., 2021; Hoang et al. 2018; Nguyen 2013; Nguyen et al. 2020; Truong et al. 2016). The t-test was performed on independent samples. The results show the difference in the evaluation of five the quality of higher education service between students of different levels in the five dimensions.

There are several suggestions for enhancing the quality of education service in 40 universities in 11 provinces/cities in Vietnam: Firstly, those universities' support staff should be trained in service quality-related programs such as customer service, general knowledge, inter-personal communication; Secondly, effective feedback mechanisms should be improved to determine whether or not there is a need for improvement in the quality of education services as well as responsibilities of 40 universities' staff to solve students' problems; Thirdly, effective technical and program improvements need to be made to support all 40 universities' services, including being student-friendly and gaining student trust and confidence of students; Fourthly, suitable tuition fees, scholarships, and assistance to encourage students to study; Fifthly, facilities, teaching equipment like classrooms, lecture halls, libraries, and entertainment facilities need to be improved so that students feel comfortable using these facilities for better studying and research. Sixthly, teaching staff must understand the above-mentioned difficulties that students face to provide prompt support to their students.

There are several limitations to this study. First, the data come from the survey and lack qualitative data for combined data for richer and better data analysis. The second limitation relates to the sampling and self-reported measurements. This could also lead to biases in the findings, and this was cross-sectional research that does not permit reliable results. It is expected that future studies will take those limitations into account.

## V. RECOMENDATIONS

There can be several recommendations.

Firstly, creating convenient conditions for people to access educational services effectively through directing and supervising the staff of civil servants and teachers to implement the processes and regulations on administrative procedures and progress. receive dossiers, process and return results in the shortest possible time, ensuring credibility of the people. Developing simple, understandable and easy-to-implement procedures; Diversifying sources of enrollment information, admission/transfer procedures and ensure provision adequate information for the people.

Second, improving facilities and equipment for teaching by standardizing quality assurance conditions by the serious way; Pay attention to landscape layout; Developing a plan to carry out the accreditation and certification of education quality assurance conditions according to educational institution accreditation standards, and gradually apply international accreditation standards.

Finally, improving the educational environment by creating a safe and healthy physical and psycho-physiological development environment; focus on shaping behavior in accordance with regulations, rules of living standards; Considering building a safe, healthy and friendly educational environment as a central issue; Increase the use of active teaching methods such as problem solving teaching, group activities, role-playing, learning games. Organizing student-centered activities in the teaching process to promote the potential and develop the capacity of students.

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