

Effects of Service Quality and Price Fairness on Student Satisfaction

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Abstract

Higher education institutions in Vietnam have put much effort to attract students to enroll in programs using English as a means of teaching because these programs have newly been introduced in Vietnam and tuition fees are usually about five/six times higher than those in Vietnamese. Hence, student satisfaction plays a very important role in these institutions. This research aims to examine the effect of students' perceived service quality and the students' perceived price fairness on student satisfaction. The results show that various dimensions in perceived service quality and perceived price fairness have positive impacts on student satisfaction. It also shows that when perceived price fairness is taken into account, the variation in student satisfaction is better explained by comparison with the original Parasuraman's SERVQUAL model. This research can be useful not only for existing higher education institutions in Vietnam but also for foreign universities planning to enter Vietnam's education sector.

Key words: Perceived Service Quality; Perceived Price Fairness; Student Satisfaction; Higher Education Institution.

Introduction

Customer satisfaction is very important for any industry especially service organization. Customer satisfaction can influence customers' future intention and lead to profitability, market share and return on investment (Anderson, Fornell, and Lehmann, 1994). The world has been shifting from a manufacturing-based to a service-based economy (Gronroos, 1990), and the studies of service quality and customer satisfaction have dominated the service related literature (Cronin, Brady, and Hult 2000). The education sector is turning from a subsidized entity to become a source for earning money. Therefore, all business concepts and theories can be applied in this sector. With this application in the fast ever changing demand in education, the competition among higher education institutions has become fierce. In addition, the expectation of customers toward higher education institutions becomes higher and higher with the increase in the tuition fee and the classification of education as a marketable service (Kwek, Lau, and Tan, 2010). There are many stakeholders in service industries but customers are usually considered the most important stakeholders. In education services, students are considered to be customers, hence they should be of the top concern in the operation of any academic institution (IWA, 2007; Sakthivel, Rajendran, and Raju, 2005; Hill, 1995; Zairi, 1995).

In the last two decades, Vietnam has been trying to integrate into the world. The only way to develop and prosper for every industry of Vietnam is to be open to the world, and education is no exception. Every higher education institution tries to catch up to become a world-class institution. In order to meet the labor demand of the booming economy, the majority of higher education institutions have been offering programs in economics and business. However, there were many barriers on their course of advancement. The textbooks and academic materials in Vietnamese were inadequate and usually outdated by many years. English textbooks and reference materials were available but were circulated within faculties/academic researchers. English was the main barrier for students to approach the invaluable sources of knowledge. To help students overcome this barrier and to meet the fast-ever increasing demand in the education sector, more and more higher education institutions have offered programs using English as a means of teaching.

Some higher education institutions teach every subject in English (e.g. International University – a member of Vietnam National University of Ho Chi Minh City), some higher education institutions offer programs in English in parallel with programs in Vietnamese (e.g. University of Technical Education, Ho Chi Minh City University Foreign Language and Information Technology), some are the affiliates of foreign higher education institutions (e.g. Saigontech as an affiliate of Houston Community College of the USA).

At present, the majority of higher educational institutions in Ho Chi Minh City have offered these types of programs. These programs can have various forms and durations. Students can choose four-year programs in Vietnam, one-plus-three (i.e. one year in Vietnam and three years overseas), two-plus-two (i.e. two years in Vietnam and two years overseas), or three plus one (i.e. three years in Vietnam and one year overseas). The tuition fees of these programs are about five or six times higher than those similar programs taught in Vietnamese. It is obvious that only students from the upper-class can afford this kind of education, but at the same time they require high-quality services which are commensurate with the amount of money they pay. Because the tuition fee in programs taught in Vietnamese has been limited by the government as a subsidy for low-income class students, these programs in English have brought many sources of financial income for higher education institutions. They can use this source of income to cover financial losses which result from the Vietnamese programs. Hence, it is quite obvious that higher education institutions must maintain and expand these programs in English whenever possible. In order to keep these programs running and developing, student satisfaction is very important to be achieved. Therefore, higher education institutions have put much effort to achieve student satisfaction.

Letcher and Neves (2010) stated that “psychologists have found that student satisfaction helps to build self-confidence, and that self-confidence helps students develop useful skills, acquire knowledge, and become more confident, in what may be described as a virtuous cycle”. In addition, dissatisfied students can be involved in negative activities such as poor performance in academic courses, unpleasant relationships between students, staffs, faculty, and friends (Letcher and Neves, 2010; Athiyaman, 1997). Marta Pedraja Iglesias and M. Jesus Yague Guillen (2004) stated that “obtaining customer satisfaction means that customers repeat the experienced service and that they become an effective and efficient communication resource, at no cost to the firm”. Due to this importance, it is necessary to delve into determining factors of student satisfaction.

One factor should be considered while studying student satisfaction is service quality. Some researchers, for example, Parasuraman, Zeithaml, and Berry (1988); Bitner (1990); Bolton and Drew (1991) said that customer satisfaction is the antecedent of service quality, while other experts, such as Woodside, Frey and Daly (1989); Spreng and Mackoy (1996); and Hoisington and Naumann (2003) thought that better service quality would generate customer satisfaction. According to Donaldson and Runciman (1995) service quality is a key performance measure in educational excellence and is a main strategic variable for higher education institutions to increase market share. The service quality of educational institutions can also be measured in various dimensions but the most widely used model to study service quality is SERVQUAL introduced by Parasuraman *et al.* (1988). According to Zeithaml, Parasuraman and Berry (1990), SERVQUAL is universal and can be applied to any service organization to evaluate the service quality offered. However, determining factors in the SERVQUAL model proposed by Parasuraman, Zeithaml and Berry must be tailored to accommodate the special characteristics of education services.

Another important factor for customer satisfaction which has not been included much in various models is perceived price. This gap in the literature shows the possible effect of price fairness on customer satisfaction which was also suggested by Voss, Parasuraman, and Grewal (1998). Aga and Safakli (2007) conducted a research on professional accounting firms in North Cyprus, and confirmed the effect of perceived price on customer satisfaction. Hence, the intention of this research is to combine the service quality and price fairness into one model to study their impact on student satisfaction. In other words, the simultaneous examination of the relationships between service quality, perceived price fairness, and customer satisfaction is conducted. Over the last decade, Vietnamese researchers have conducted many researches on the effect of service quality on customer satisfaction using the SERVQUAL model but few studies have included price fairness in this model in order to study the effect simultaneously, especially none of them has been carried out in studying student satisfaction.

Literature Review

Student Satisfaction

Oliver (1997) stated “Satisfaction is the consumer’s fulfillment response. It is a judgment that a product or service feature, or the product or service itself, provided (or is providing) a pleasurable level of consumption-related fulfillment, including levels of under-or over-fulfillment...”. Howard and Sheth (1969) defined customer satisfaction as a psychological state to evaluate the reasonableness between what a customer actually pays and gets. Some specialists (Hunt, 1977; Rust and Oliver, 1994) interpreted satisfaction as the emotional assessment about how far customers believe that the service consumption can generate positive feelings. Churchill and Surprenant (1982) proposed that customer satisfaction derived from the comparison between the expected reward and the actual cost of buying. Kotler and Clarke (1987) defined satisfaction as a state of expectation fulfillment when a customer experiences a(n) performance or outcome. Satisfaction is also considered to be the intentional performance which produces one’s contentment (Malik, Danish, and Usman, 2010). Sapri, Kaka, and Finch (2009) pointed out that customers are the lifeblood of any organization.

According to Thorsten Hennig-Thurau and Alexander Klee (1997), customer satisfaction with a company's products or services is the key to a company's success and long-term competitiveness. Customer satisfaction frameworks have been widely used by researchers. (Oliver, 1997; Giese and Cote, 2000; Wiers-Jensen, Stensaker, and Grøgaard, 2002). Operationally, the construct is similar to an attitude as it can be assessed as the sum of the satisfactions with various attributes of a product or service (Churchill and Surprenant, 1982). Many researchers have conducted studies about the quality of higher education institutions based on students’ perception. Gold (2001) reported that students are the key customers of academic institutions. Illias, Hasan, Rahman, and Yaso (2008) proposed that student satisfaction has been built continuously with experiences on campus during the college years. Word-of-mouth communication from satisfied students to their friends, acquaintances, and relatives can help many academic institutions to attract new students. These satisfied students could go back to their previous academic institutions to study further or take other courses (Helgesen and Nettet, 2007; Gruber, Fub, Voss, and Glaser-Zikuda, 2010). Every academic institution must make every effort toward meeting and exceeding student’s expectation in order to ensure their sustainable operation and development (Anderson *et al.*, 1994).

Perceived Service Quality

It is difficult to define what quality is (Lagrosen, 2004). Clemes, Gan, Kao, and Choong (2008) stated that whatever customers perceive as important are dimensions of quality. Zeithaml (1988) said that perceived quality could be defined as customer perception about an entity’s overall experience or superiority. According to ISO 9000:2000, quality is defined as “the degree to which a set of inherent characteristics fulfills requirements”. Ismail, Abdullah, and Francis (2009) reported that perceived quality is a general assessment of service. Positive perception of service quality occurs when the customer expectation is met or exceeded. Service quality is considered to be a key performance measure for excellence in education and a determining factor for academic institutions as education service providers (Donaldson and Runciman, 1995), with lasting effects on the students. While it is quite easy to measure the quality of goods using certain technical specification, it is more difficult to measure the service quality which depends on various factors.

Although there has been no universal agreement in measurement of the concept, the majority of research has used SERVQUAL to measure service quality (Sahney, Banwet, and Karunes, 2004; Brook, Lings, and Botschen, 1999; Lings and Brooks, 1998; Edvardsson, Larsson, and Setterlind, 1997; Reynoso and Moore, 1995). Parasuraman, Zeithaml, and Berry (1985; 1988) stated that service quality can be defined as the difference between expected service (customer expectations) and perceived service (customer perceptions). The SERVQUAL scale is a principle instrument to assess quality in service marketing (Parasuraman, Zeithaml, and Berry, 1991; 1988). It has been extensively used not only by managers (Parasuraman *et al.*, 1991) but academics (Babakus and Boller, 1992; Carman, 1990) in assessing service quality on customer perceptions for various types of services (banks, credit cards companies, repair, and maintenance companies). The five dimensions of service quality in the SERVQUAL instrument have surfaced through a variety of services. These dimensions consist of reliability, responsiveness, assurance, empathy, and tangibility (Zeithaml, Parasuraman, and Berry, 1990; Bresinger and Lambert, 1990; Crompton and MacKay, 1989).

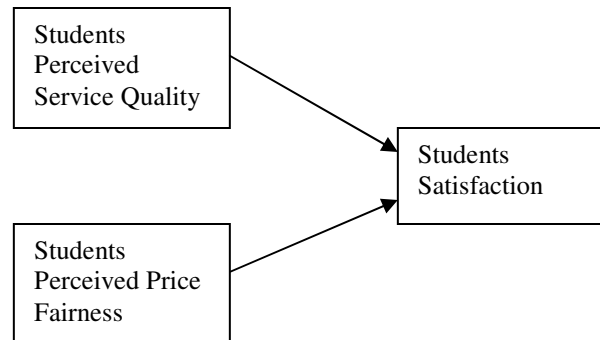
Originally SERVQUAL consisted of 22 pairs of Likert scale statements structured around five service quality dimensions so as to measure service quality (Cronin and Taylor, 1992). Banwet and Datta (2002) used the SERVQUAL instrument to investigate educational institutions. Hill (1995) applied the SERVQUAL model to study the role of students as primary consumers of higher education institutions. Ahmed *et al.* (2010) studied the impact of service quality on students using dimensions in SERVQUAL. Sureshchandar, Chandrasekharan, and Anantharaman (2002) found that service quality is closely related with customer satisfaction. Shemwell *et al.* (1998), Cronin *et al.* (1992) and Bolton and Drew (1991) also noticed that service quality gives rise to customer satisfaction. Veloutsou, Daskou, and Daskou (2004) stated that service quality is used by students as key criteria to select academic institutions for education.

Perceived Price Fairness

Price is the amount of money or goods used to attain some combination of other goods and its associated services (Stanton, Kirk, Cameron, and Sharon, 1994; Hanif, Hafeez, Adnan, 2010). Kotler and Armstrong (2010) reported that price is the amount of money exchanged for a product or service, or the sum of the values that customers exchange for the benefits of acquiring the product or service. Zeithaml (1988) stated that the customer's perceived price can be considered to be what is given up or sacrificed to get a product or service. The price of the service can significantly influence perceptions of quality and satisfaction (Zeithaml and Bitner, 2000). Fairness was defined as a judgment of whether an outcome and/or the process to attain an outcome are reasonable, acceptable or just (Bolton, Warlop, and Alba, 2003). Lien and Yu (2001) confirmed that perceived price can be measured by the fairness of price to be paid. If the customers consider the price to be reasonable or fair then they feel more satisfied (Clemes *et al.*, 2008). In this study, the student's perceived price is what was given or sacrificed to attain educational services.

Research Model and Hypotheses

Figure 1: Research Model: How Service Quality and Perceived Price Fairness Affect Student Satisfaction



The research model is shown on Figure 1. This model is based on Zeithaml's (1988) mean-end model and Parasuraman *et al.*'s (1991) satisfaction model. In those original models, customer satisfaction can be predicted from three concepts, i.e. perceived product quality, perceived service quality, and perceived price fairness. The characteristics of the service industry allow the combination of perceived product quality and perceived service quality into a single construct, namely perceived service quality (Natalia and Subroto, 2003; Clemes *et al.*, 2008). Lien and Yu (2001) also said that, "In most service industry marketing literature, perceived service quality captures the spot light, while perceived product quality is absent". Because students receive educational services from academic institutions, then the final model as shown in Figure 1 consists of two independent variables, i.e. perceived service quality and perceived price fairness, and one dependent variable, student satisfaction.

Soutar, Geoffrey and McNeil (1996) reported that perceived quality dimensions which have a correlation with the academic factors had a significant impact on student satisfaction. Hasan, Ilias, Rahman, and Razak (2008) reported that student perceived service quality positively influenced student satisfaction. Sumaedi, Bakti and Metasari (2011) confirmed that student perceived quality has a positive influence on student satisfaction. In light of the above mentioned, the following research question (RQ) was developed:

RQ1: Determine the relationship between service quality dimensions and student satisfaction.

Clemes *et al.* (2008), and Lien and Yu (2001) reported that perceived price positively affected customer satisfaction. Dapkevicius and Melnikas (2009) found a positive relationship between perceived price fairness and customer satisfaction. Sumaedi, Bakti and Metasari (2011) also confirmed the positive correlation between perceived price fairness and student satisfaction. Therefore, the following research question is proposed:

RQ2: Determine the relationship between students' perceived price fairness and student satisfaction.

Anderson *et al.* (1994) stated that perceived service quality has more significantly influenced customer satisfaction than perceived price fairness. Kao (2007) reported that in academic institutions, student perceived quality affects student satisfaction more than perceived price fairness. Clemes *et al.* (2008) said that the perceived service quality had a larger impact on customer satisfaction by comparison than the perceived price fairness. Therefore, the following research question is suggested:

RQ3: Compare the influences of student perceived service quality dimensions and perceived price fairness on student satisfaction.

Research Methodology

A survey was conducted at four different higher education institutions, namely International University – a member of Vietnam National University of Ho Chi Minh City (IU), Saigontech (SGT), University of Technical Education (UTE), and Ho Chi Minh City University Foreign Language and Information Technology (HUFLIT). Although almost all higher education institutions in Ho Chi Minh City, Vietnam offer programs in English, the reason for choosing these particular institutions was the convenience in sampling. Five hundred sets of questionnaires were distributed to students in the four above-mentioned higher education institutions.

The questionnaire was designed to cover four sections namely, demographic profile, perceived service quality, perceived price fairness and student satisfaction. The demographic profile section asks students for information about gender, and how many semesters they have completed. The perceived service quality was based on the five dimensions of service quality in the SERVQUAL instrument which consist of reliability, responsiveness, assurance, empathy, and tangibleness (Zeithaml, Parasuraman, Berry, 1990; Bresinger and Lambert, 1990; Crompton and MacKay, 1989). The perceived price fairness was measured as a one dimension variable (*Fair*). The instrument to measure student satisfaction was adapted from Athiyaman (1997). It has six items with a Likert scale from one to five. However, this questionnaire was scrutinized carefully in the following ways:

- The initial version of questionnaire was delivered to four IU students, two SGT students, two UTE students, two HUFLIT students, and two faculty members in IU for discussion and contribution of ideas. Wording in the questionnaire was also reviewed to prevent any misunderstanding due to the various contexts of education environment.
- A meeting of the ten people mentioned above was organized and all feedback was collected. All suggestions were discussed and examined carefully. Final decisions were made based on consensus at the end of the meeting. The final version of perceived service quality consists of five dimensions with 28 items: *Empathy* consists of five items (*Emp1, Emp2, Emp3, Emp4, and Emp5*), *Assurance* consists of eight items (*As1, As2, As3, As4, As5, As6, As7, and As8*), *Responsiveness* consists of five items (*Res1, Res2, Res3, Res4, and Res5*), *Reliability* consists of four items (*Rel1, Rel2, Rel3, and Rel4*), and *Tangibleness* consists of six items (*Tan1, Tan2, Tan3, Tan4, Tan5, and Tan6*). It is expected that six items (*Sa1, Sa2, Sa3, Sa4, Sa5, and Sa6*) in student satisfaction would be contracted into one factor after exploratory factor analysis (EFA). This factor score is further used in regression analysis as a dependent variable. A five point Likert Scale was used to measure all the items. The scale varies from one (strongly disagree) to five (strongly agree). According to the feedback at the meeting, the original scale from one to seven was too confusing for respondents when completing the questionnaires.
- The data analysis was carried out using SPSS. First, descriptive statistics and reliability analysis (Cronbach's Alpha) were conducted. Then EFA was performed to reduce the number of variables to measure the service quality. Furthermore, EFA was also carried out with the six variables used to measure student satisfaction, with the expectation that these six variables would be contracted into one. Finally, regression analysis was conducted with student satisfaction as the dependent variable, service quality and price fairness as independent variables.

Findings

500 questionnaires in Table 1 were delivered to students. After eliminating responses with missing answers, 462 were considered (92.4%).

Table 2 shows that respondents are made up of 162 of IU students (35.1%), 113 of SGT (24.5%), 114 of UTE (24.7%), and 73 of HUFLIT (15.8%). The majority of students are female (61.5%). In addition, more than 80% of students were studying from semester 3 to semester 6 (25.7%+13.6%+26.7%+16.8% = 82.8%).

Table 3 shows that for the construct *Empathy*, all values in the column *Corrected Item-Total Correlation* are greater than 0.3. The Cronbach's Alpha of the construct of *Empathy* is 0.621, which is greater than all values in the column *Cronbach's Alpha If Item Deleted*. The reliability test is confirmed if the value of Cronbach's Alpha is greater than 0.7. However, the value 0.621 is acceptable because these programs are not common in Vietnam and students in these programs are not familiar with researches about satisfaction. Hence, according to Nunnally (1978), Peterson (1994), and Slater (1995), the value of Cronbach's Alpha of $0.6 \div 0.7$ is acceptable. Therefore, all five items in the construct *Empathy* were kept for further analyses.

With similar reasons, all items in the constructs *Assurance*, *Reliability*, and *Tangibleness* were kept for further analyses.

For the construct *Responsiveness*, the variable *Res5* was deleted because it would increase the Cronbach's Alpha from 0.728 to 0.736, i.e. *Availability Channels for Expressing Students Complaints* is not highly valued by students when evaluating service quality offered in education sectors. After deleting the variable *Res5*, the reliability analysis was performed again. Based on the result, all remaining four items in the construct *Responsiveness* were kept for further analyses.

The Cronbach's Alpha in the construct *Satisfaction* would increase from 0.753 to 0.912 if the item *Sas1* is deleted. Hence, the item *Sas1* was deleted, and the reliability test was conducted again. The result showed that all five remaining items *Sas2*, *Sas3*, *Sas4*, *Sas5*, and *Sas6* were kept for further analyses.

The following criteria should be followed in order to conduct the EFA:

- The value of KMO must be greater than or equal to 50%
- The maximum absolute value of any factor loading must be greater than 0.5
- For any item, the difference between the maximum absolute value and minimum absolute value of loading factors must be greater than or equal to 0.3 (Jabnoun and Al-Tamimi, 2003)
- Total variance explained must be greater than or equal to 50%

After conducting EFA for variables *Emp1*, *Emp2*, *Emp3*, *Emp4*, *Emp5*, *As1*, *As2*, *As3*, *As4*, *As5*, *As6*, *As7*, *As8*, *Res1*, *Res2*, *Res3*, *Res4*, *Rel1*, *Rel2*, *Rel3*, *Rel4*, *Tan1*, *Tan2*, *Tan3*, *Tan4*, *Tan5*, and *Tan6*, based on Table 4, the following variables were deleted: *Emp3*, *Emp5*, *As1*, *As6*, *As7*, *As8*, *Res1*, and *Res4*.

EFA was performed again with the 19 remaining variables. Based on Table 5, the variable *Rel4* was deleted. Another EFA was conducted with the remaining 18 variables. Table 6 indicated that these 18 variables were combined into five factors which were named as in Figure 2.

Figure 2: New five factors to measure service quality after EFA

Factor	Variables included	Name
Factor 1	Tan3, Tan4, Tan5, Tan6	Facility
Factor 2	As2, As3, As4, Res2	Faculty
Factor 3	Emp1, Emp2, Emp4, As5, Res3	Administration
Factor 4	Rel1, Rel2, Rel3	Documentation
Factor 5	Tan1, Tan2	Appearance

EFA was also conducted for *Sas2*, *Sas3*, *Sas4*, *Sas5*, and *Sas6*. Based on the result of Table 7, these five variables were reduced into one factor as expected. It was named *Satisfaction*.

Factors *Facility*, *Faculty*, *Administration*, *Documentation*, and *Appearance* as independent variables, and *Satisfaction* as a dependent variable were used to conduct regression analysis.

The result in Table 8 shows the following relationship:

Equation 1

$$Satisfaction = 0.369*Facility + 0.127*Faculty + 0.235*Administration + 0.185*Documentation + 0.178*Appearance + 0.246*Fair$$

All coefficients in Equation 1 are statistically significant.

Factors *Facility*, *Faculty*, *Administration*, *Documentation*, *Appearance*, and *Fair* can be used to explain 41.5% of the variation in *Satisfaction*, in which *Facility* has the most impact on *Satisfaction*, *Fair* has the second largest influence on *Satisfaction*, and *Faculty* has the least effect on *Satisfaction*.

If *Fair* was removed from the list of independent variables, then based on Table 9, we have the following relationship:

Equation 2

$$Satisfaction = 0.414*Facility + 0.182*Faculty + 0.273*Administration + 0.231*Documentation + 0.197*Appearance$$

All coefficients in Equation 2 are statistically significant.

This equation can explain only 36.5% of the variation of the factor *Satisfaction*, i.e. 5% reduction by comparison with the model with *Fair*. Hence, we observe an improvement if the variable *Fair* is included in the research.

Discussion, Conclusions, and Suggestions

Discussion

RQ1

This study shows the influence of perceived service quality on student satisfaction. The 27 initial dimensions of perceived service quality based on SERVQUAL have been reduced to 18 dimensions. They can be grouped into five new factors, namely *Facility*, *Faculty*, *Administration*, *Documentation*, and *Appearance*. All of them have a positive influence on student satisfaction.

RQ2

The perceived price fairness also has a positive impact on student satisfaction. The more students think that the education is worth what they have paid for it, the more satisfied they are.

RQ3

The factor *Facility* has the most influence on the variation of student satisfaction. The perceived price fairness (*Fair*) has the second impact on the variation of student satisfaction. Then, factors *Administration* and *Documentation* have the third and fourth effects. Finally, the factor *Faculty* has the least influence on student satisfaction.

In addition, when the perceived price fairness is included in the model to predict the student satisfaction we can observe a five percent improvement by comparison with using only perceived service quality to predict student satisfaction.

Conclusions and Suggestions

Service quality has a significant impact on student satisfaction. This is confirmed again with this study. However, the dimensions to measure service quality have some modification in the Vietnam context. The programs using English as a means of teaching have started in Vietnam just since the last decade; hence, this study can be useful for existing higher education institutions. There have been few academic researches in Vietnam about student satisfaction in these programs, and their context is within only one higher education institution, and none of them has considered the effect of price fairness on student satisfaction. It is very important to know that students are very sensitive to the tuition fees. This is especially true because Vietnam is still a developing country whose gross domestic product (GDP) per capita is still very low - GDP per capita = \$1350 (CIA, 2012) while the tuition fees per annum are roughly equivalent to that figure. The tuition fees are also very high if they are compared with those in programs where Vietnamese has been used as a means of teaching. Hence, students/parents who do pay, demand the education service offered must be worth the level of the tuition fees.

Facility plays the most important role in satisfying students. Higher education institutions should provide modern classrooms with updated equipment. Physical environments must be supportive to the learning process. The classrooms must be kept clean and free of distraction. Textbooks and reference materials must be sufficient and updated. Adequate access to digital repositories should be granted to students. At present, libraries in Vietnam are open in the daytime and closed in the evening. Longer working hours in libraries should be of concern in order to increase student satisfaction.

Administration also has a very important effect on student satisfaction. Based on this study, it is ranked third in the level of impact behind facility and price fairness. The staffs are the ones who deal with administrative procedures, on an everyday basis. Hence, their knowledge, skills and serving attitude play a very important role to increase student satisfaction.

Documentation is ranked fourth in the order of influence level to student satisfaction. Timely-and-error-free registration, records availability, and readiness when needed are highly appreciated by students. A reliable computer system with a well-maintained database could offer much help to higher education institutions to satisfy students.

Finally, the *Appearance* of staffs and instructors can also improve student satisfaction. Neat and tidy clothing can help staffs and instructors to enhance the image of a higher education institution in the eyes of students. Generally, students want to wear casual dress but demand staffs and instructors to look more professional.

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Table 1: Questionnaire**Empathy**

1: strongly disagree; 2: disagree; 3: neutral, 4: agree, 5: strongly agree

- 1) Administration has students' best interest at heart. ____
- 2) Staffs are willing to give students individual attention ____
- 3) The extent to which lecturers is sympathetic and supportive to the needs of students. ____
- 4) University/college is fair and unbiased in their treatment of individual students. ____
- 5) Instructors encourage and motivate students to do their best. ____

Assurance

1: strongly disagree; 2: disagree; 3: neutral, 4: agree, 5: strongly agree

- 1) University/college staffs are friendly and courteous. ____
- 2) Instructors are friendly and courteous. ____
- 3) Instructors have good academic credentials. ____
- 4) Instructors answer all questions thoroughly. ____
- 5) University/college's staffs have good knowledge on rules and procedures. ____
- 6) Instructors have good English ability. ____
- 7) Curriculum is well designed and up-to-date. ____
- 8) Instructors are fair and impartial in grading. ____

Responsiveness

1: very bad; 2: bad; 3: neutral, 4: good, 5: very good

- 1) Availability of staffs to assist students. ____
- 2) Availability of instructors to assist students. ____
- 3) Capacity of staffs to solve problems when they arise. ____
- 4) Capacity of instructors to solve problems when they arise. ____
- 5) Availability channels for expressing students complaints. ____

Reliability

1: strongly disagree; 2: disagree; 3: neutral, 4: agree, 5: strongly agree

- 1) Registration is timely and error-free. ____
- 2) This university/college keeps its records accurately. ____
- 3) This university/college provides its service at a time it promises to do so. ____
- 4) The instructor consistently provides good lectures. ____

Tangibleness

1: strongly disagree; 2: disagree; 3: neutral, 4: agree, 5: strongly agree

- 1) Appearance of staffs is suitable. ____
- 2) Appearance of instructors is suitable. ____
- 3) The classroom is modern and updated. ____
- 4) The physical environment of the classroom aid learning. ____
- 5) The classroom is kept clean and free of distraction. ____
- 6) The library offers adequate materials for reference. ____

Student satisfaction

1: strongly disagree; 2: disagree; 3: neutral, 4: agree, 5: strongly agree

1. I'm satisfied with my decision to attend this University/college. ____
2. If I have choice to do it all over again, I will still enroll in this university. ____
3. My choice to enroll in this university/college is a wise one. ____
4. I'm happy on my decision to enroll in this university. ____
5. I did the right decision when I decided to enroll in this university. ____
6. I'm happy that I enrolled in this university. ____

Perceive price fairness

1: strongly disagree; 2: disagree; 3: neutral, 4: agree, 5: strongly agree

- Education service is worth what I've paid. ____

Table 2: Students' Demographic Profile Program

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid IU	162	35.1	35.1	35.1
SGT	113	24.5	24.5	59.5
UTE	114	24.7	24.7	84.2
HUFLIT	73	15.8	15.8	100.0
Total	462	100.0	100.0	

Sex

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	178	38.5	38.5	38.5
Female	284	61.5	61.5	100.0
Total	462	100.0	100.0	

Table 3: Reliability Analysis for Empathy, Assurance, Responsiveness, Reliability, Tangibleness, and Satisfaction

Reliability VARIABLES=Emp1 Emp2 Emp3 Emp4 Emp5

Reliability Statistics

Cronbach's Alpha	N of Items
.621	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Emp1	14.15	4.833	.323	.123	.593
Emp2	14.08	4.601	.389	.166	.561
Emp3	13.81	4.856	.344	.152	.583
Emp4	13.87	4.274	.417	.182	.545
Emp5	13.72	4.517	.402	.197	.553

Reliability VARIABLES=As1 As2 As3 As4 As5 As6 As7 As8

Cronbach's Alpha	N of Items
.782	8

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
As1	25.31	13.542	.402	.232	.773
As2	24.88	13.417	.553	.340	.749
As3	24.86	13.780	.489	.303	.758
As4	25.03	13.346	.489	.275	.757
As5	25.20	13.625	.413	.188	.770
As6	25.08	12.720	.533	.299	.750
As7	25.19	12.720	.532	.305	.750
As8	25.08	13.272	.491	.265	.757

Reliability VARIABLES=Res1 Res2 Res3 Res4 Res5

Cronbach's Alpha	N of Items
.728	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Res1	13.48	5.443	.568	.389	.652
Res2	13.15	5.996	.465	.327	.692
Res3	13.55	5.415	.556	.364	.656
Res4	13.15	5.764	.510	.316	.675
Res5	13.78	5.369	.388	.167	.736

Reliability VARIABLES=Rel1 Rel2 Rel3 Rel4

Cronbach's Alpha	N of Items
.681	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Rel1	10.29	3.621	.496	.593
Rel2	9.89	3.968	.484	.604
Rel3	10.15	3.532	.498	.593
Rel4	9.74	4.354	.382	.664

Reliability VARIABLES=Tan1 Tan2 Tan3 Tan4 Tan5 Tan6

Cronbach's Alpha	N of Items
.756	6

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Tan1	18.29	10.023	.383	.749
Tan2	17.93	10.238	.415	.741
Tan3	18.06	8.506	.632	.681
Tan4	18.02	9.084	.590	.697
Tan5	17.87	9.140	.525	.713
Tan6	18.35	8.865	.455	.737

Reliability VARIABLES=Sas1 Sas2 Sas3 Sas4 Sas5 Sas6

Cronbach's Alpha	N of Items
.753	6

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Sas1	17.27	15.072	.349	.912
Sas2	17.53	21.217	.662	.685
Sas3	17.60	22.492	.671	.697
Sas4	17.52	22.506	.683	.696
Sas5	17.46	22.045	.718	.687
Sas6	17.56	21.856	.702	.687

Reliability VARIABLES=Res1 Res2 Res3 Res4

Cronbach's Alpha	N of Items
.736	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Res1	10.48	3.131	.569	.652
Res2	10.15	3.468	.503	.690
Res3	10.56	3.189	.520	.682
Res4	10.15	3.354	.520	.681

Reliability VARIABLES=Sas2 Sas3 Sas4 Sas5 Sas6

Cronbach's Alpha	N of Items
.912	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Sas2	13.82	9.257	.750	.902
Sas3	13.89	10.232	.756	.897
Sas4	13.81	10.139	.794	.890
Sas5	13.75	9.877	.817	.884
Sas6	13.84	9.785	.787	.890

Table 4: EFA for Variables Emp1, Emp2, Emp3, Emp4, Emp5, As1, As2, As3, As4, As5, As6, As7, As8, Res1, Res2, Res3, Res4, Rel1, Rel2, Rel3, Rel4, Tan1, Tan2, Tan3, Tan4, Tan5, and Tan6

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Adequacy.	Measure of Sampling	.901
Bartlett's Test of Sphericity	Approx. Chi-Square of Df Sig.	3919.723 351 .000

Rotated Component Matrix^a

	Component					
	1	2	3	4	5	6
Emp1			.592			
Emp2			.644			
Emp3	.516					-.392
Emp4			.581			
Emp5	.394					
As1			.459			.385
As2	.592					
As3	.694					
As4	.622					
As5			.546			
As6	.540		.339			
As7	.497		.370			
As8	.452		.331			
Res1			.354			.525
Res2	.542					
Res3			.315			.677
Res4	.513					.507
Rel1				.612		
Rel2				.691		
Rel3				.725		
Rel4	.550					
Tan1					.843	
Tan2					.849	
Tan3		.791				
Tan4		.757				
Tan5		.743				
Tan6		.577				

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Table 5: EFA for Emp1, Emp2, Emp4, As2, As3, As4, As5, Res2, Res3, Rel1, Rel2, Rel3, Rel4, Tan1, Tan2, Tan3, Tan4, Tan5, and Tan6**KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Adequacy.	Measure of Sampling	.880
Bartlett's Test of Sphericity	Approx. Chi-Square of Df	2418.184
	Sig.	.000

Rotated Component Matrix^a

	Component				
	1	2	3	4	5
Emp1			.621		
Emp2			.672		
Emp4			.579		
As2		.647			
As3		.768			
As4		.664			
As5			.611		
Res2		.579			
Res3			.534		
Rel1				.668	
Rel2				.695	
Rel3				.744	
Rel4		.533		.322	
Tan1					.852
Tan2					.837
Tan3	.811				
Tan4	.770				
Tan5	.719				
Tan6	.560				

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Table 6: EFA for Emp1, Emp2, Emp4, As2, As3, As4, As5, Res2, Res3, Rel1, Rel2, Rel3, Tan1, Tan2, Tan3, Tan4, Tan5, and Tan6

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Adequacy.	Measure of Sampling	.870
Bartlett's Test of Sphericity	Approx. Chi-Square of Df	2252.584
	Sig.	.000

Rotated Component Matrix^a

	Component				
	1	2	3	4	5
Emp1			.620		
Emp2			.677		
Emp4			.577		
As2		.672			
As3		.764			
As4		.686			
As5			.620		
Res2		.575			
Res3			.533		
Rel1				.683	
Rel2				.705	
Rel3				.736	
Tan1					.854
Tan2					.844
Tan3	.816				
Tan4	.766				
Tan5	.717				
Tan6	.569				

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Table 7: EFA for Sas2, Sas3, Sas4, Sas5, and Sas6

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Adequacy.	Measure of Sampling	.895
Bartlett's Test of Sphericity	Approx. Chi-Square of Df	1565.712
	Sig.	.000

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.760	75.206	75.206	3.760	75.206	75.206
2	.400	8.005	83.211			
3	.310	6.200	89.411			
4	.276	5.518	94.929			
5	.254	5.071	100.000			

Extraction Method: Principal Component Analysis.

Table 8: Regression Analysis with Factors Facility, Faculty, Administration, Documentation, Appearance, and Fair as Independent Variables and Satisfaction as the Dependent Variable
Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.650 ^a	.423	.415	.76468984	1.684

a. Predictors: (Constant), Fair, REGR factor score 5 for analysis 1, REGR factor score 3 for analysis 1, REGR factor score 4 for analysis 1, REGR factor score 1 for analysis 1, REGR factor score 2 for analysis 1

b. Dependent Variable: REGR factor score 1 for analysis 2

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VI F
1	(Constant)	-.846	.138		-6.134	.000		
	REGR factor score 1	.368	.036	.369	10.135	.000	.961	1.041
	REGR factor score 2	.127	.037	.127	3.458	.001	.943	1.060
	REGR factor score 3	.235	.036	.235	6.491	.000	.972	1.029
	REGR factor score 4	.185	.036	.185	5.097	.000	.962	1.040
	REGR factor score 5	.178	.036	.178	4.983	.000	.993	1.007
	Fair	.266	.042	.246	6.350	.000	.850	1.176

a. Dependent Variable: REGR factor score 1 for analysis 2

Table 9: Regression Analysis with Factors Facility, Faculty, Administration, Documentation, Appearance as Independent Variables and Satisfaction as the Dependent Variable Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.610 ^a	.372	.365	.79704773	1.640

a. Predictors: (Constant), REGR factor score 5 for analysis 1, REGR factor score 2 for analysis 1, REGR factor score 4 for analysis 1, REGR factor score 3 for analysis 1, REGR factor score 1 for analysis 1

b. Dependent Variable: REGR factor score 1 for analysis 2

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	.000	.037		.003	.997		
REGR factor score 1	.414	.037	.414	11.147	.000	1.000	1.000
REGR factor score 2	.182	.037	.182	4.910	.000	1.000	1.000
REGR factor score 3	.273	.037	.273	7.350	.000	1.000	1.000
REGR factor score 4	.230	.037	.231	6.204	.000	1.000	1.000
REGR factor score 5	.197	.037	.197	5.293	.000	1.000	1.000

a. Dependent Variable: REGR factor score 1 for analysis 2