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An Analysis of Educational Quality of Universities in the North of Vietnam

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Abstract

The aim of this study is to find the solutions of quality improvement for selected leading universities in the North of Vietnam. The authors collected data from parents, staffs, government officer, industrial experts, etc. This study used Likert scale of five. From the results of hypotheses, the author found the relationships among variables. Based on that point of view, the author proposed general recommendations for university and leaders and the suggestion for each stakeholder in education. In terms of important findings, finding dimensions and analyzing their relationships contribute to the evaluation of educational quality in North of Vietnam.

Keywords: Total quality management; Total quality education; Education quality; Statistical analysis

Introduction

As a developing country, Vietnamese government invests a large number of resources in upgrading and renovating its education system. Most of the universities in Vietnam are public schools which has been dominating their educational market for decades. In the past, the Ministry of Education and Training (MOET) organized the university entrance exam in different groups such as A, B, C, D and other groups (A1, D1). In fact, group A involves Mathematics, Physics, and Chemistry; Group B: Mathematics, Chemistry, and Biology; Group C: Literature, History, and Geography; Group D: Mathematics, Literature and foreign language [1]. For example, if you want to become a doctor, you will take the exam of group B. Another loves becoming a journalist, he or she can take the group C. Examinations take this general-purpose input for universities and colleges in Vietnam. An examination by the Ministry of Education and training is held every year, right after High School Graduation Examination for about a month. According to the plans, the two exams lumped together in 2010 [2]. However, until now, in 2015, the MOET has decided to merge two exams, in which students would take at least four subjects for exam and one sub-subject. Scores from these subjects would be used to assess whether the students pass high school graduation exam and are eligible to apply for their desired college with three chosen from the four given subjects [3]. This means that students have more opportunities in their decision to the universities they consider. Nevertheless, competition amongst universities is increasing. Therefore, many Vietnamese universities have become up with solutions to attract more students. Yet, very few of them have discussed how to improve their competitiveness and student attraction based on analyzing their core resources and voice of stakeholders.

Review of Literature

In order to review previous studies on the issue, the researcher has collected key papers in Web of science based on such key words as "total education quality" "higher education", "total quality management". More than one thousand papers were extracted. In addition, the researcher also found references about education quality in higher education of Vietnam. Based on the citation, key related studies were reviewed [4] (Table 1).

In general, these studies tend to focus on teaching quality and student engagement. Since many of them are from Asia, it is clear that Asian countries have paid attention to further improve education quality. The research studies in Vietnam also look for the solutions to labour quality as well as teaching and learning activities.

Research Framework

In the previous chapter, we already found the key variables for the framework. Based on the literature review and the interview with expert, we proposed the framework and hypotheses as Figure 1.

H1: Campus environment and teaching quality has influence on technical system and social system, and management system (for clear recruiting, nurturing and developing faculty and staff, Budget priorities, and clear evaluation and control system).

H2: Campus environment and teaching quality influence management system for goals, vision, mission, leadership, organization design and clear policies.

H3: International opportunity and the output after graduation for students has influence on Technical system and social system, and management system (for clear recruiting, nurturing and developing faculty and staff, Budget priorities, and clear evaluation and control system).

H4: International opportunity and the output after graduation for students has influence on Management system for goals, vision, mission, leadership, organization design and clear policies.

H5: Faculty's competence and attitude has influence on Technical system and social system, and management system (for clear recruiting, nurturing and developing faculty and staff, Budget priorities, and clear evaluation and control system).

H6: Faculty's competence and attitude has influence on Management system for goals, vision, mission, leadership, organization design and clear policies.

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Year	The author	Title	Language
2014	Bornman, Elirea; Pauw, J C; Potgieter, Petrus H	A relationship marketing approach to education as a service: an application to the University of Valencia	Spanish
2014	Tran Thi Lan	Labor quality of the intelligentsia in Vietnamhigher education today	Vietnamese
2013	Kim, Gyesoo	Effects of Difference Education Quality on Student Satisfaction and Student Loyalty	Korean
2010	Nguyen Thi Thu Hang	Organization of teaching activities towards promoting creative thinking ability for Agriculture - Forestry - Fishing majors at colleges and universities	Vietnamese
2005	H Coates	The value of student engagement for higher education quality assurance	English

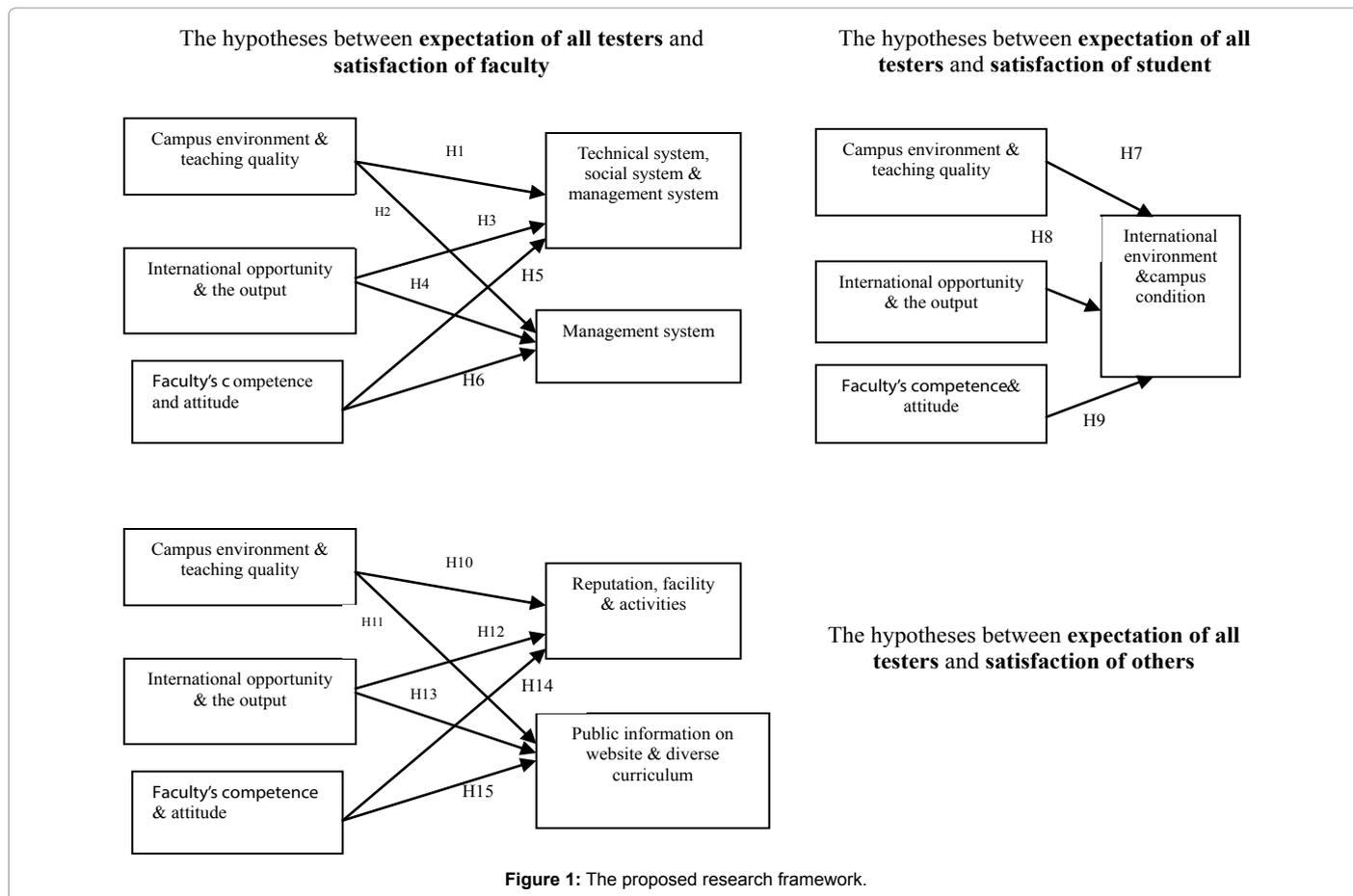**Table 1:** Related studies or researches on higher education.

Figure 1: The proposed research framework.

H7: Campus environment and teaching quality has influence on International environment and campus condition.

H8: International opportunity and the output after graduation for students has influence on International environment and campus condition.

H9: Faculty's competence and attitude has influence on International environment and campus condition.

H10: Campus environment and teaching quality has influence on Reputation, facility and activities in University.

H11: Campus environment and teaching quality has influence on Public information on website and diverse curriculum.

H12: International opportunity and the output after graduation for students has influence on Reputation, facility and activities in University.

H13: International opportunity and the output after graduation for

students has influence on Public information on website and diverse curriculum.

H14: Faculty's competence and attitude has influence on Reputation, facility and activities in University.

H15: Faculty's competence and attitude has influence on Public information on website and diverse curriculum.

This study uses the quantitative method to analyze the educational quality of universities in Northern Vietnam. In addition, a qualitative method is applied to discover and explain the causes behind the findings of quantitative analysis [5]. The purpose of a qualitative analysis is to check a phenomenon or relationship that is happening at a specific time and places [6]. Based on the analysis of key variables, we discover the demands of customers, and then we use it to measure satisfaction level of them. Due to limit of time, questionnaire was delivered to respondents via internet. An online survey was conducted to collect the data from customers of education. The respondents of

the study are teachers, students, students' parents, staff, government officers and industrial employees, etc in five universities which train one same major that is Business administration [7].

The samples from the Universities are as Table 2.

Data analysis and Results

Among the respondents 50.63 % were male while 49.38% were female and mainly at the age from 18 to 24 years old (72.50%). The majority of customers who responded to the questionnaire were students (68.75%), while the rest 16.88% and 14.38% participants are teachers and others respectively. Most of the students answering this survey were full-time undergraduate students (92.78%). In the Table 3, we can see that 32.50% responses were from TUEBA, 21.25% from PTIT, 13.75% from HVU, 16.88% from VCU and 15.63% from TNUT [8] (Table 3).

Rotated component matrix

KMO (Kaiser-Meyer-Olkin Measure of Sampling Adequacy) is acceptable. KMO of Q1-44 (For all) and Q1-13 (For students) is higher than 0.9, which means marvelous, while the others such as Q1-Q23 and Q1-8 are miserable. In terms of the Bartlett's Test, it reflects the significance of this study. For this situation, the Bartlett's Test of Sphericity is less than 0.05. This result meets the requirement. Thus, this research is significant. Rotated Component Matrix is used to read the statistic in an easier way compared with Component Matrix [9]. We use rotated component matrix to confirm the dimensions or variables proposed in the framework (Table 4).

As seen in the table, we find the variables (42, 44, 43, 21, 30, 11, 16, 10, 14, 23, 20, 41, 15, 26, 24, and 17) strongly correlated with each other in the 1st component that we call "dimension 1". Similarly, dimension 2 includes variables 37, 34, 28, 36, 40, 38, 39, 35 and 31. The variables which are the explanatory variables to dimension 3 are 2, 5, 3, 6, 7 and 1.

Based on the similarities (expressed overall) of variables in the same dimension, we name these dimensions.

Dimension 1: Campus environment and teaching quality (X1)

Dimension 2: International opportunity and the output after graduation for students (X2)

Dimension 3: Faculty's competence and attitude(X3)

We use this method to confirm the factor analysis. After naming dimensions, we have the dimensions which fit the factors in the literature review.

We use this method to confirm the factor analysis [10]. After naming dimensions, we have the dimensions which fit the factors in the literature review.

Dimensions

Y1 (satisfaction of faculty)

Dimension 1: Technical system and social system, and management system (for clear recruiting, nurturing and developing faculty and staff, Budget priorities, and clear evaluation and control system) (Y1a).

Dimension 2: Management system for goals, vision, mission, leadership, organization design and clear policies (Y1b).

Y2 (satisfaction of student)

Dimension 1: International environment and campus condition (Y2).

Y3 (satisfaction of others)

Dimension 1: Reputation, facility and activities in University (Y3a).

Dimension 2: Public information on website and diverse curriculum (Y3b).

Regression Analysis

SPSS is used to examine the connections between dependent variables and independent variables. This study analyzes multiple regressions of each connection to investigate the effect of metric independent variables on each single metric dependent variable [11]. In the data, we consider three main contents which are model summary table to check R-squared, ANOVA to examine the significance, and coefficients to check standardized beta and significance (Table 5 and Figure 2).

No	Department	University	Abbreviation
1	Department of Business Administration	Thai Nguyen University of Economics and Business Administration	TUEBA
2	Department of Business Administration	Post and Telecommunications Institute of Technology	PTIT
3	Department of Economics and Business Administration	Hung Vuong University	HVU
4	Department of Human Resource Management	Vietnam Commercial University	VCU
5	Department of Industrial Economy (including majors in management)	Thai Nguyen University of Technology	TNUT

Table 2: Places of data collection.

Items	Categories	Frequency	Percentage rates (%)
Age	From 18 to 24 years old	116	72.50
	From 25 to 30 years old	25	15,63
	From 31 to 35 years old	12	7.50
	From 36 to 40 years old	4	2.50
	Over 40 years old	3	1.88
Gender	Male	81	50.63
	Female	79	49.38
University	TUEBA	52	32.50
	PTIT	34	21.25
	HVU	22	13.75
	VCU	27	16.88
	TNUT	25	15.63
Career	Student	110	68.75
	Teacher	27	16.88
	Others	23	14.38
Student's degree	Part-time undergraduate student(bachelor level)	3	2.73
	Full-time undergraduate student(bachelor level)	102	92.73
	Part-time graduate student (master level)	3	2.73
	Full-time graduate student (master level)	2	1.82
	PHD student	0	0.00

Table 3: Description of samples.

	Component		
	1	2	3
Others (42. Campus is beautiful)	.838	.242	.068
Others (44. Lots of activities, such as clubs and competition)	.769	.294	.217
Others (43. Living in school is convenient, friendly and safe)	.765	.297	.244
Delivery (21. Orderly environment is important/benefit for learning)	.757	.265	.365
Others (30. Location and transportation system is convenient)	.744	.203	.323
Content (11. The learning approach is adequate)	.737	.213	.452
Delivery (16. The classroom management is effective)	.729	.317	.347
Attitude (10. The teaching or learning activity in classroom is cooperative and collegial)	.713	.249	.432
Content (14. Offering cross disciplinary courses)	.710	.335	.289
Reliability (23. Consistency among levels of training)	.693	.340	.442
Delivery (20. Record keeping on performance)	.667	.305	.401
Others (41. School budget, funding, equipment are enough)	.666	.492	.250
Delivery (15. It is easy to contact/access to teachers and administrative staff)	.663	.366	.322
Reliability (26. Adherence to course objectives.	.655	.260	.412
Reliability (24. The policies/guidelines are clearly specified)	.644	.296	.398
Delivery (17. The teaching approach is adequate and appropriate)	.631	.394	.423
Others (37. Overseas study opportunity for student)	.267	.821	.275
Others (34. Attractive scholarship for student)	.311	.803	.219
Others [28. The ability of to find job after graduation (For students)]	.129	.796	.241
Others (36. Internship opportunity for student)	.172	.795	.308
Others [40. International environment (English environment with lots of international students)]	.301	.789	.099
Others (38. Exchange and dual degree opportunity for student)	.267	.785	.255
Others (39. Education for acquiring certificate)	.348	.680	.134
Others (35. TA or RA opportunity for student)	.360	.676	.338
Others (31. Reasonable tuition or attractive salary)	.410	.662	.192
Competence (2. Faculty's expertise meets the standard of excellence)	.325	.302	.743
Attitude (5. The problem solving of faculty and amp; staff is efficient and effective)	.425	.336	.670
Competence (3. Faculty's teaching ability and skills satisfy the students' requirement)	.373	.411	.645
Attitude (6. Strong orientation towards achievement of student)	.390	.213	.639
Attitude (7. The working or learning atmosphere in classroom is competitive and dynamic)	.423	.252	.637
Competence (1. The physical facilities/ infrastructure is appropriate)	.460	.416	.571
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.			
a. Rotation converged in 6 iterations.			

Table 4: Rotated Component Matrixes.

In the first model: Check the relationship among variables with Y1a and Y1b With Y1a

After running multiple regression analysis, we achieve the result as above which demonstrates the relationships among variables. The statistics show that Adjusted R square ($R^2=0.431$), which means that these variables explains 43.1% of the total variance of Y1a, and $p<0.5$, showing that the model is significant.

The statistic found for H1 ($\beta=0.451$, $p<0.01$) suggests that X1 (Campus environment and teaching quality) has influence on Y1a (Technical system and social system, and management system (for clear recruiting, nurturing and developing faculty and staff, budget priorities, and clear evaluation and control system) [12]. The result for H3 ($\beta=0.481$, $p<0.01$) shows that X2 (International opportunity and the output after graduation for students) has influence on Y1a (Technical system and social system, and management system (for clear recruiting, nurturing and developing faculty and staff, Budget priorities, and clear evaluation and control system)) [13]. The result for H5 ($\beta=0.481$, $p>0.05$) shows that there is no relationship between X3 (Campus environment and teaching quality) and Y1a (Management system). Of the three variables, X2 has the strongest positive influence on Y1a, with $\beta=0.481$.
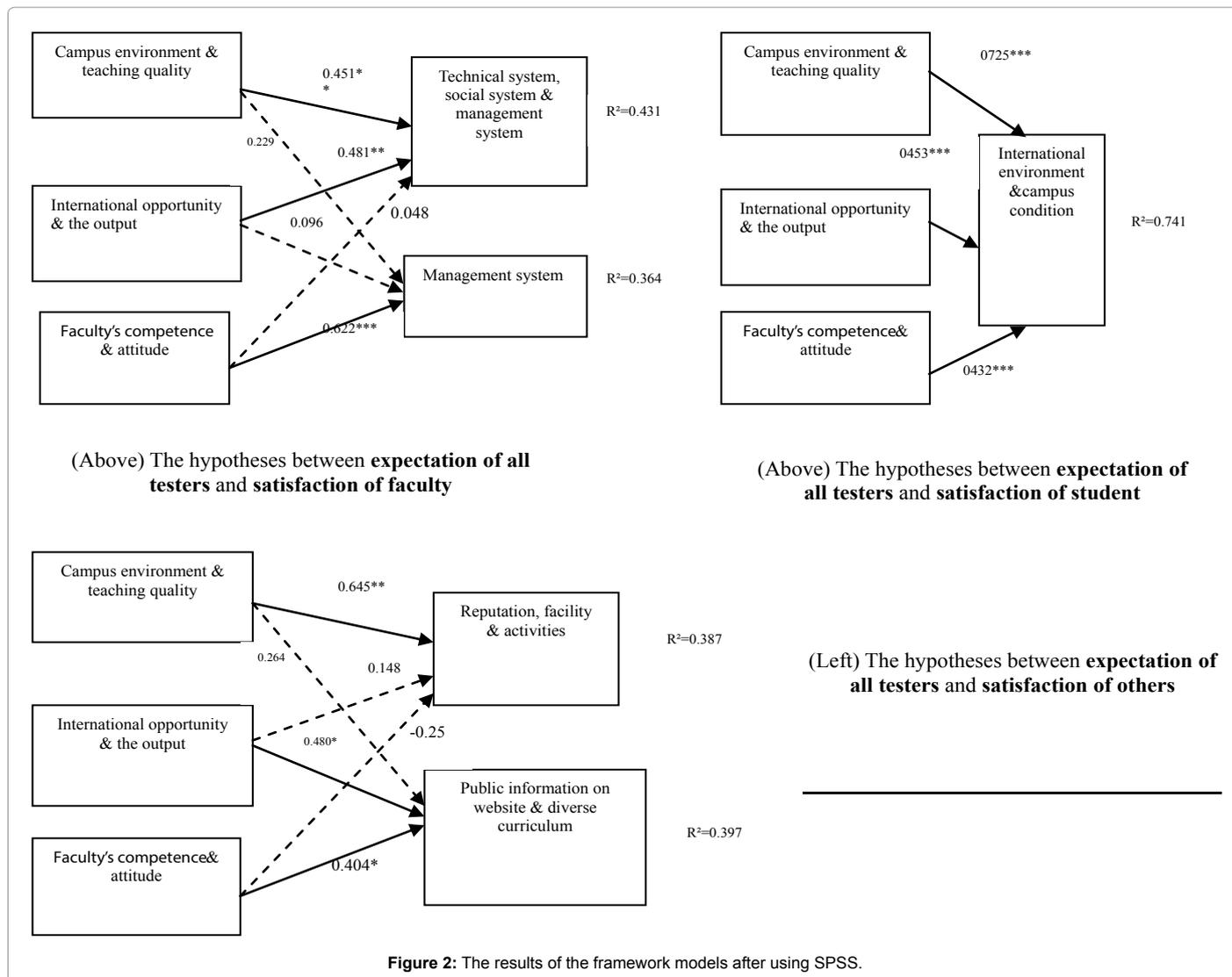
With Y1b

The statistics show that Adjusted R square ($R^2=0.364$), which means that these variables explains 36.4 % of the total variance of Y1b , and $p<0.5$, showing that the model is significant.

The result for H2 ($\beta=0.229$, $p>0.05$) shows that there is no relationship between X1 (Campus environment and teaching quality) and Y1b (Management system for goals, vision, mission, leadership, organization design and clear policies).. The result for H4 ($\beta=0.096$, $p>0.05$) shows that there is no relationship between X2 (International opportunity and the output after graduation for students) and Y1b (Management system for goals, vision, mission, leadership, organization design and clear policies) [14]. The statistic found for H6 ($\beta=0.622$, $p<0.001$) suggests that X3 (Faculty's competence and attitude, facility) has influence on Y1b (Management system for goals, vision, mission, leadership, organization design and clear policies). Of

Hypothesis		p	Results
H1	Campus environment and teaching quality → Technical system, social system and management system	p<0.01	Positive
H2	Campus environment and teaching quality → Management system	p>0.05	Negative
H3	International opportunity and the output → Technical system, social system and management system	p<0.01	Positive
H4	International opportunity and the output → Management system	p>0.05	Negative
H5	Faculty's competence and attitude → Technical system, social system and management system	p>0.05	Negative
H6	Faculty's competence and attitude → Management system	p<0.001	Positive
H7	Campus environment and teaching quality → International environment and campus condition	p<0.001	Positive
H8	International opportunity and the output → International environment and campus condition	p<0.001	Positive
H9	Faculty's competence and attitude → International environment and campus condition	p<0.001	Positive
H10	Campus environment and teaching quality → Reputation, facility and activities	p<0.01	Positive
H11	Campus environment and teaching quality → Public information on website and diverse curriculum	p>0.05	Negative
H12	International opportunity and the output → Reputation, facility and activities	p>0.05	Negative
H13	International opportunity and the output → Public information on website and diverse curriculum	p<0.05	Positive
H14	Faculty's competence and attitude → Reputation, facility and activities	p>0.05	Negative
H15	Faculty's competence and attitude → Public information on website and diverse curriculum	p<0.05	Positive
Note: p>0.05: Negative; p<0.05: Positive (p<0.05: *; p<0.01: **; p<0.001: ***).			

Table 5: The result of hypotheses.

Figure 2: The results of the framework models after using SPSS.

the three variables, there is only X3 which has positive influence on Y1b, with β=0.622.

In the second model: Check the relationship among variables with Y2

After running multiple regression analysis, we achieve the result as above which demonstrates the relationships among variables. The statistics show that Adjusted R square (R²=0.741), which means that these variables explains 74.1% of the total variance of Y2, and p<0.5, showing that the model is significant [15].

The statistic found for H7 (β=0.725, p<0.001) suggests that X1 (Campus environment and teaching quality) has influence on Y2 (International environment and campus condition). The result for H8 (β=0.453, p<0.001) shows that X2 (International opportunity and the output after graduation for students) has influence on Y2 (International environment and campus condition) [16]. The result for H9 (β=0.432, p<0.001) shows that X3 (Faculty's competence and attitude, facility) has influence on Y2 (International environment and campus condition).Of the three variables, X1 has the strongest positive influence on Y2 with β=0.725.

In the third model: Check the relationship among variables with Y3a and Y3b with Y3a

After running multiple regression analysis, we achieve the result as above which demonstrates the relationships among variables. The statistics show that Adjusted R square (R²=0.387), which means that these variables explains 38.7% of the total variance of Y3a, and p<0.5, showing that the model is significant.

The statistic found for H10 (β=0.645, p<0.01) suggests that X1 (Campus environment and teaching quality) influences Y3a (Reputation, facility and activities). The result for H12 (β=0.148, p>0.05) shows that there is no relationship between X2 (International opportunity and the output after graduation for students) and Y3a (Reputation, facility and activities).The result for H14 (β=-0.25, p>0.05) shows that there is no relationship between X3 (Faculty's competence and attitude, facility) and Y3a (Reputation, facility and activities).Of the three variables, there is only X1 which has positive influence on Y3a with β=0.645.

With Y3b

After running multiple regression analysis, we achieve the result

as above which demonstrates the relationships among variables. The statistics show that Adjusted R square (R^2=0.397), which means that these variables explains 39.7% of the total variance of Y3b, and p<0.5, showing that the model is significant.

The result for H11 (β=0.264, p>0.05) shows that there is no relationship between X1 (Campus environment and teaching quality) and Y3b (Public information on website and diverse curriculum). The statistic found for H13 (β=0.480, p<0.05) suggests that X2 (International opportunity and the output after graduation for students) has influence on Y3b (Public information on website and diverse curriculum). The statistic found for H15 (β=0.404, p<0.05) suggests that (Faculty's competence and attitude, facility) has influence on Y3b (Public information on website and diverse curriculum). Of the three variables, X2 has the strongest positive influence on Y3b with β=0.480.

Conclusions and Recommendations

Campus environment and teaching quality have influence on technical system, social system and management system (for clear recruiting, nurturing and developing faculty and staff, budget priorities, and clear evaluation and control system).

There is no relationship between campus environment and teaching quality and management system for goals, vision, mission, leadership, organization design and clear policies. International opportunity and the output after graduation affect technical system, social system and management system (for clear recruiting, nurturing and developing faculty and staff, budget priorities, and clear evaluation and control system).

International opportunity and the output do not influence on management system for goals, vision, mission, leadership, organization design and clear policies. Faculty's competence and attitude does not have influence on technical system, social system and management system (for clear recruiting, nurturing and developing faculty and staff, budget priorities, and clear evaluation and control system).

There is a relationship between faculty's competence and attitude and management system for goals, vision, mission, leadership, organization design and clear policies.

Campus environment and teaching quality affect international environment and campus condition. International opportunity and the output affect international environment and campus condition. Faculty's competence and attitude has influence on international environment and campus condition. Campus environment and teaching quality have influence on reputation, facility and activities. Campus environment and teaching quality do not affect public information on website and diverse curriculum. International opportunity and the output do not affect reputation, facility and activities

International opportunity and the output affect public information on website and diverse curriculum. Faculty's competence and attitude does not have influence on reputation, facility and activities. Faculty's competence and attitude has influence on public information on website and diverse curriculum.

Suggestions for students

Students have to understand that they play the most important role in educational quality. Thus, they have to contribute to learning quality. The students should study in a positive way to catch up with the latest knowledge. They need to improve their English level to get international opportunities in international conferences, exchange study or overseas. Additionally, students should take part in important competitions for students about knowledge, skills as Olympic, festivals and others in order to get good results. Specifically, students have to share their opinions, comments or suggestions about their study process and learning environment in a more serious and responsible way. Finally, students need to find the internship opportunities by themselves to gain the experience.

Suggestions for teachers

Teachers need to consider the students as the center of education. From that point of view, they have to improve their knowledge and skill to train their students in the best way. Changing new teaching methods and updating modern technology are necessary in teaching activities. They ought to take the chances of studying abroad and business trips. In addition, they should encourage students to enter competitions or internships. They have to be a good example for the students to follow. In Vietnam, the distance between the teacher and the student is still quite far because of their culture, so teachers ought to make that distance closer to understand students' real needs.

Suggestions for parents

In Vietnam, parents give their children advice to choose a suitable university. However, in the study process of students, the connection between the university and the parents is a loose relationship. They do not have parents' committees, which mean that no organization or group can represent the parents to hear their opinions, or ideals. The first solution is that they have to care about their children more even though their children are students in universities. A parents' committee or group should be established. Secondly, the parents should support the development of university in activities, facilities, and educational quality plans.

Suggestions for other stakeholders as governmental officers or industrial employees

They are the people who have the macro impact on higher education. They should update the strengths and weaknesses of the universities. Business visits are necessary to keep updated with the practical situation. They should help the universities in management, evaluation and internship.

Acknowledgment

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