

FACTORS AFFECTING THAI NGUYEN UNIVERSITY INTERNATIONAL STUDENTS' ENVIRONMENTAL SPECIALIZATION

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ARTICLE INFO	ABSTRACT
Received: 14/4/2021	To ascertain the factors influencing Thai Nguyen University International students' choice of environment major, the research group chose 21 variables to investigate and classified them into four primary research groups: "Faculty Fixed Characteristics", "Faculty Communication Effort", "Students' Self-Characteristics", and "Influential Individuals". Cronbach's Alpha, exploratory factor analysis (EFA), and multivariate linear regression were used in this study. The participants included 134 students majoring in Environment. The results show that 81.5% of students' decision to choose an environmental major is influenced by the above four groups of factors. In which, the decision to choose the environment major of international students increased to 0.419 units when the fixed characteristics of the Faculty increased to 1 unit; increased by 0.306 units when Faculty's communication effort increased by 1 unit; increased to 0.126 units when the student's personal characteristics increased by 1 unit and increased by 0.337 units when the individual of influence increased to 1 unit. As a result, in order to increase the number of students enrolled in the environment major, the School must enhance its work in the following areas: strictly handle the factors that make up the International School's fixed features, reinforce efforts to propagate and facilitate, develop a team of professional admission advisors, and cultivate a friendly relationship between the International School and associated areas.
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CÁC YẾU TỐ ẢNH HƯỞNG ĐẾN VIỆC CHỌN NGÀNH MÔI TRƯỜNG CỦA SINH VIÊN KHOA QUỐC TẾ ĐẠI HỌC THÁI NGUYÊN

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THÔNG TIN BÀI BÁO	TÓM TẮT
Ngày nhận bài: 14/4/2021	Để xác định được các yếu tố ảnh hưởng đến việc chọn ngành Môi trường của sinh viên Khoa Quốc tế, nhóm nghiên cứu đã chọn 21 biến để nghiên cứu và chia làm 4 nhóm giả thuyết nghiên cứu chính: “Đặc điểm cố định của Khoa”, “Nỗ lực giao tiếp của Khoa”, “Đặc điểm bản thân sinh viên” và “Các cá nhân có ảnh hưởng” trên 134 sinh viên ngành Môi trường. Phương pháp kiểm định Cronbach's Alpha, phân tích nhân tố khám phá (EFA) và hồi quy tuyến tính đa biến được sử dụng trong nghiên cứu này. Kết quả cho thấy 81,5% quyết định chọn ngành Môi trường của sinh viên Khoa Quốc tế chịu sự ảnh hưởng bởi 4 nhóm tố trên. Trong đó quyết định chọn ngành Môi trường của sinh viên tăng lên 0,419 đơn vị khi đặc điểm cố định của Khoa tăng lên 1 đơn vị; tăng lên 0,306 đơn vị khi nỗ lực giao tiếp của Khoa tăng lên 1 đơn vị; tăng lên 0,126 đơn vị khi đặc điểm bản thân học sinh tăng lên 1 đơn vị và tăng lên 0,337 đơn vị khi cá nhân có ảnh hưởng tăng lên 1 đơn vị. Do đó, để nâng cao công tác tuyển sinh ngành Môi trường Khoa cần nâng cao các công tác: Quản lý chặt chẽ các yếu tố tạo nên đặc điểm cố định của Khoa, tăng cường nỗ lực tuyên truyền và quảng bá, xây dựng đội ngũ cán bộ tư vấn tuyển sinh chuyên nghiệp, thiết lập mối quan hệ hữu hảo giữa Khoa với các đối tượng hữu quan có liên quan.
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1. Introduction

Identifying the factors affecting students' choices of majors does not only help them to orient their future careers but also assist training institutions have effective student recruiting solutions. Joseph Sia Kee Ming [1] proposed a conceptual framework model of factors influencing students' decision to choose a university in Malaysia. The research results have shown that a student's decision to choose a university is influenced by a factor group of fixed university characteristics and the group of factors of communication efforts with students. The model proposed by the author only introduces factors that can affect the decision to choose a university. Russayani Ismail [2] completed a case study of foreign students at Utara University Malaysia on the subject "Factors Influencing the Choice of Educational Destination." The research emphasized the importance of preserving educational quality to ensure long-term competitiveness and seeks to identify factors that may impact foreign students' decision-making when selecting a university. However, this research is only applicable to universities that educate foreign students [2]. MeiTang, WeiPan [3] researched the factors that affect to the choosing university trends of high school students. The research analyzed 4 main factors such as: experiential learning, ability to evaluate career capabilities, benefits and expected outcomes in career development. All the factors effect to the students' career choices from high school students. This research only focuses on orientation of the students' future careers. Bromley [4], who polled 384 teens, came to the conclusion that both school and family have a direct or indirect influence on young people's career decisions. There is also the influence of siblings, relatives, and friends,... This survey just shows the individual groups affecting students' choices of majors. Similar to Bromley's research, Michael Borchert [5] conducted a poll of 325 high school students at Germantown High School in Wisconsin, USA, and found that the three key groups of factors that impact career decisions are environment, opportunities, and personal traits. The research findings show that personal factors have the most significant impact on high school students' choice of careers. D.W. Chapman [6] suggested a general model of university selection for students. During the surveying process to test the model, two groups of factors were discovered to have a significant impact on a student's decision to attend a university: family characteristics, individual student and side factors, as well as personal impacts such as fixed university characteristics and the university's attempts to interact with students. According to the findings of Ha's research "Factors Affecting Students' Choice of Ho Chi Minh City Open University", there are seven factors that influence students' school choices, all of which are interconnected. However, the study findings still have up to 7 groups of factors influencing the decision, making those findings impossible to apply in practice [7]. Tran Van Qui and Cao Hao Thi conducted research on "Factors Influencing High School Students' Decision to Attend University." According to the findings, five factors influence students' decisions to choose universities: future employment opportunities factors, fixed qualities of the university, factors about the student's individual identity; personal factors influence students' decisions, and available information influences their decision to choose universities. When scaled to the population, this model only describes 21.5 percent of study challenges [8]. To identify all factors affecting to students' choice of majors and their level of influences, we conducted a research on factors affecting the students' choices of environmental specilization at International School.

2. Materials and methods

The research model was performed according to the figure 1.

This study provided 21 observed variables for four groups of factors: "Faculty Fixed Characteristics Group," "Faculty Communication Effort Group," "Students' Self-Characteristics Group," and "Influential Individuals Group".

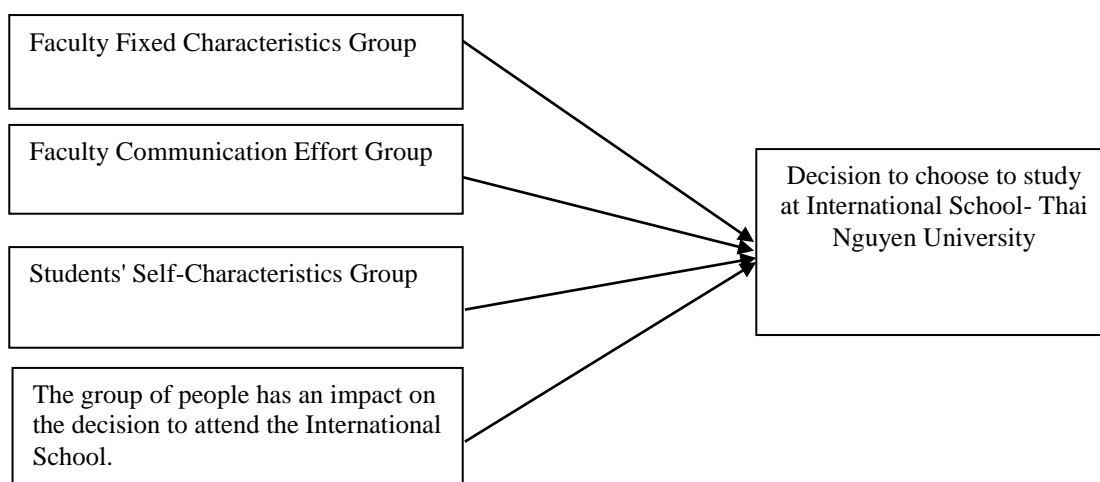


Figure 1. *The research model*

Primary data sources were gathered via questionnaires administered to 134 Environmental majors enrolled in years 2, 3, and 4.

In terms of ethnicity, 69 male students accounted for 51.5 percent of the 134 students surveyed, while 65 male students accounted for 48.9 percent. The decision to attend a university to take the exam was primarily made in the 12th grade, accounting for 61.9 percent of the time. However, up to 5.2 percent of students chose a school since the 10th grade, and 30.6 percent of students chose a university to take the entrance exam since the 11th grade.

SPSS software was used to clean and process the collected data. The research employed basic approaches such as descriptive statistics and comparative methods. The Likert scale was used to gather the factors, with 5 levels ranging from strongly disagree to fully agree. Factors influencing a student's intention to select a major were measured by the student's rating on those factors on a 5-point scale. To examine data and detect influencing factors, exploratory factor analysis with KMO test (Kaiser - Meyer - Olkin) and Cronbach's Alpha coefficients were used in addition to conventional statistical methods. The linear regression model was also used to assess the impact of factors influencing international students' choice of environmental majors.

The research model used is as follows:

$$X = \alpha + \beta_1 \cdot V1 + \beta_2 \cdot V2 + \beta_3 \cdot V3 + \beta_4 \cdot V4 \quad (1)$$

Where:

X: is the decision to select an environment major.

V1, V2, V3, V4: are factor groups.

$\beta_1, \beta_2, \beta_3, \beta_4$: are regression coefficients of the factors.

3. Results and discussion

3.1 Determine the factors that influence the choice of the Environmental major of International students

Factors affecting the choice of environmental students of the International School were assessed on 4 main groups of factors with 21 observed variables including: Group of factors of fixed characteristics of the International Faculty (7 factors), the group of factors of the international faculty's communication effort (3 factors), the group of students' personal characteristics (4 factors), the group of influential individuals (7 factors).

Table 1. Statistics of factors

Scale	Observed variables	Coding variables	The alpha coefficient	(Corrected Item- Total Correlation)
Faculty Fixed Characteristics Group		V1	0.936	
	1. The International School is geographically close to home, makes transportation and study easier.	V1.1		0.768
	2. The International School has a diverse and attractive academic profession.	V1.2		0.799
	3. The International School is the training address for credibility and brand.	V1.3		0.787
	4. The International School has advanced teaching facilities and equipment..	V1.4		0.757
	5. The International School collects tuition fees tailored to family economic circumstances.	V1.5		0.822
	6. The International School offers excellent scholarships and financial assistance to students.	V1.6		0.812
	7. After graduating from the International School, students will have the chance to find the right job based on their training expertise.	V1.7		0.822
Faculty Communication Effort Group		V2	0.907	
	1. The International School disseminates complete information about the school in the media.	V2.1		0.837
	2. The International Faculty has a strong admissions and career counseling program.	V2.2		0.820
	3. Students have been visiting directly at the School	V2.3		0.792
Students' Self-Characteristics Group		V3	0.900	
	1. Because the entrance benchmark of the International School matches the individual's ability.	V3.1		0.793
	2. Because the International School has a training program tailored to individual interests and aspirations.	V3.2		0.807
	3. Because the International School has a training program tailored to the student's own abilities.	V3.3		0.794
	4. Because the International School offers a training program that is tailored to an individual's post-graduate work requirements.	V3.4		0.724
The group of people has an impact on the decision to attend the International School.		V4	0.947	
	1. Based on the opinion of parents.	V4.1		0.872
	2. Based on the opinions of the family's siblings and sisters.	V4.2		0.873
	3. Based on the opinion of teachers, career advice teachers in high schools.	V4.3		0.783
	4. Based on the opinions of friends.	V4.4		0.850
	5. Based on the recommendations of advisors and admissions officers.	V4.5		0.781
	6. Based on the opinions of students who have been studying at the International School	V4.6		0.823
	7. Based on the opinion of teachers of the International School.	V4.7		0.776

Using SPSS software to assess the scale's reliability with Cronbach's Alpha reliability coefficients, the findings showed that the scale meets the standard since the Cronbach's Alpha

coefficients are between 0.900 and 0.947. Furthermore, when considering the correlation coefficient of the total variable (Corrected Item - Total Correlation), the results showed that none of the observed variables approach the total variable correlation coefficient of 0.724 or higher. As a result, it is possible to argue that the scale used to gather data for the research model is of very high quality. The results of testing the reliability of the scale are presented in Table 1.

To evaluate the quality and rank the data, in this study we used the KMO test, if the test result is 0.9 or more ($KMO \geq 0.9$), the data will be ranked very well; If $KMO \geq 0.8$ it is rated as good; $KMO \geq 0.7$ it is fine; $KMO \geq 0.6$ it is fairly fine; $KMO \geq 0.5$ it is bad; If KMO is less 0.5 it is considered as unacceptable. Based on these criteria, the results of testing data of this study showed that the KMO index value was 0.952 and had a statistical significance level of $p < 0.001$. This result showed that the data used in the study were suitable for exploratory factor analysis in Table 2.

Table 2. *KMO index*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.952
Bartlett's Test of Sphericity	Approx. Chi-Square	3282.063
	df	210
	Sig.	0.000

Because all observed variables have factor load coefficients greater than 0.5, they are still used in the research model. Furthermore, the findings of factor analysis showed that the observed variables in the scale were not separated into new groups of factors, indicating that the scales are competent and have high reliability. Table 3 summarizes the findings of the factor analysis.

Table 3. *Factor matrix of principal components*

Observed variables	Component			
	1	2	3	4
V1				
V1.1.	0.775	0.273		
V1.2	0.802	0.402		
V1.3	0.792			
V1.4	0.762	0.313		
V1.5	0.862			
V1.6	0.869			
V1.7	0.876			
V2				
V2.1		0.869		
V2.2		0.883		
V2.3		0.848		
V3				
V3.1			0.795	0.442
V3.2			0.791	0.430
V3.3			0.877	
V3.4			0.844	
V4				
V4.1				0.893
V4.2				0.873
V4.3				0.818
V4.4				0.842
V4.5				0.786
V4.6				0.804
V4.7				0.782

The regression analysis results for the coefficient Sig. = 0.00 showed that the regression model is consistent with the data. To discover the multi-collinearity phenomenon, the variable tolerance (Tolerances) and the variance inflation factor (VIF) were used. When a VIF reached 10, it indicated multiplicity, according to the rule. As a result, the variance inflation factor (VIF) of each group of factors in the test model was less than 10, demonstrating that the regression model did not violate the multicollinearity phenomenon and that the independent variables were correlated. This enabled the model to be further evaluated. The determination coefficients R² and adjusted R² (Adjusted R square) were used to assess the model's validity. Because R² increased when independent variables were added to the model, it was safer to use adjusted R² when determining the model's validity. The greater the adjusted R² was, the better the model's validity was. The regression findings showed that the independent variables in the model could explain 81.5 percent of the change in the dependent variable, or 81.5 percent of the students' choices to major in Environmental science. The four groups of factors mentioned above have an impact on the International School. As a result, the model's validity can be concluded to be comparatively high.

3.2 Evaluate the degree of impact of various groups of factors influencing international students' choice of an environment major

Determination of the regression model's adequacy is presented in Table 4.

Table 4. Determination of the regression model's adequacy

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	Constant	-0.706	0.325		-2.172	0.031
	V1	0.419	0.064	0.309	6.586	0.000
	V2	0.306	0.061	0.241	5.029	0.000
	V3	0.126	0.055	0.101	2.286	0.023
	V4	0.337	0.069	0.226	4.892	0.000

The regression coefficients that indicated the decision to choose the Environment major of the International School students were reduced to 0.706 units by the influence of factors other than factors in the model; the decision to choose the Environment major of international students increased to 0.419 units when the fixed characteristics of the School increased by 1 unit; the decision to choose the Environment major of the international students increased to 0.306 when the communication effort of the School increased by 1 unit; the decision to choose the Environment major of the international students increased to 0.306 units when the student's personal characteristics increased by 1 unit and the decision to choose the Environment major of international students increased to 0.337 units when the individual had influence increased by 1 unit. The obtained regression model showed that all four groups of factors of the research model had influence on the decision of international students to choose the Environment major in descending order as follows: Faculty Fixed Characteristics Group; Influential Individuals Group; Faculty Communication Effort Group; and Students' Self-Characteristics Group.

3.3 Solutions to improve enrollment efficiency

School leaders need to pay close attention to variables that comprise the Faculty's fixed features, such as: the advantage of a local university, making it easier for students to transport and study; improve the efficiency of teaching and learning management on a regular basis because this activity has a significant impact on the school's enrollment results; building training programs that are related to labor market demands, meeting and fulfilling the needs of employers, and continuously investing in infrastructure, machinery, and teaching facilities. The School may

formulate a strategy to capitalize on this as the School's strong suit with the benefit of cutting-edge facilities at Thai Nguyen University. In terms of training quality, modern facilities are becoming more important. Communication plays an important role, especially in the current trend of modern social development. Create a team of admissions counselors who are experts in their fields. Build a mutually respectful relationship between the International School and key stakeholders.

4. Conclusion

According to the study findings, all four groups of factors in the research model impact students at the International School's decision to major in Environment. The following groups' influence levels are ranked in descending order: Fixed Characteristics of the International Faculty, Influential Individuals, Faculty's Communication Effort, and ultimately Student Self-Identity.

As a result, in order to improve enrollment quality, the most important solution is to solely handle the variables that make up the fixed characteristics of the International Faculty, who are particularly interested in improving training quality. The next step is to intensify propaganda, promotion, and communication efforts in order to enhance the professional credentials of the faculty. Create a team of professional enrollment advisors; this is a powerful force. Finally, by forming relationships with high schools and employers, the School's credibility and brand will be strengthened, and this will contribute positively to Admission consulting work.

REFERENCES

- [1] J. S. K. Ming, "Institutional Factors Influencing Students' College Choice Decision in Malaysia: A Conceptual Framework," *International Journal of Business and Social Science*, vol. 1 no. 3, pp. 53-58, 2010.
- [2] R. Ismail, "Factors affecting choice for education destination: A case study of international students at Universiti Utara Malaysia," *European Journal of Economic, Finance and Administrative Sciences*, no. 22, pp. 113-123, 2010.
- [3] M. Tang, W. Pan, and M. D. Newmeyer, "Factors influencing High School student's career aspirations," *the Journal of Professional School Counseling*, American School Counselor Association, vol. 11, no. 5, pp. 285-295, 2008.
- [4] B. H. Kniveton, "Influences and motivations on which students base their choice of career," *The Journal Research in Education*, Manchester University, vol. 72, pp. 47-57, 2004.
- [5] M. Borchert, "Career choice factors of high school students," MA. thesis, the Graduate College University of Wisconsin-Stout, 2002.
- [6] D. W. Chapman, "A model of student college choice," *the Journal of Higher Education*, vol. 52, no. 5, pp. 490-505, 1981.
- [7] M. H. Nguyen, "Factors affecting students choosing Ho Chi Minh City Open University," (in Vietnamese), *Science and Technology Development Journal*, Vietnam National University Ho Chi Minh City, vol. 6, no. 2, pp. 107-117, 2011.
- [8] V. Q. Tran and H. T. Cao, "Factors influences the University choice decisions of high school student," (in Vietnamese), *Science and Technology Development Journal*, Vietnam National University Ho Chi Minh City, vol. 12, no.15, pp. 87-102, 2009.