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Analysis of Factors Influencing the Decision to Select Thai Nguyen University of Information Technology and Communication

Bui Ngoc Tuan[1*]✉, Melri Deswina[2], Widya Darwin[2], Novi Febrianti[2]
[1]University of Information and Communication Technology, VietNam
Universitas Negeri Padang, Padang, Indonesia
**Corresponding Author: bntuan.ictu@gmail.com*

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ABSTRACT

This article presents a study that aims to examine and analyze the factors that influence students' decisions in choosing the Thai Nguyen University of Information and Communication Technology. The research intends to assist universities in gaining a deeper understanding of the crucial factors that students consider when selecting a university. Consequently, this will lead to the development of more effective admission policies and strategies. The study involved collecting data from a random sample of first-year students at Thai Nguyen University of Information and Communication Technology during 2022. Data was gathered using questionnaires and both qualitative and quantitative research methods, utilizing SPSS 20 software. The findings from factor analysis indicated that a multiple regression model was suitable for assessing the factors that influence decisions to enroll in the Thai Nguyen University of Information and Communication Technology. Variables such as CSVC1 (Adequate classrooms meeting to learning needs), CSCV4 (Modern and well-equipped library with ample study materials), HP3 (Generous scholarships for various groups), VL3 (Supportive policies for employment during studies), DT2 (Curriculum aligned with social needs), DT4 (High-earning graduates), and DNGV1 (Highly qualified and standardized faculty) showed significant correlations with the dependent variable - students' career choices. The results demonstrated that the proposed model was well-fitted, with favorable levels of compatibility indices (CFI, TLI) and accuracy (GFI, RMSEA). Additionally, the outcomes of the Structural Equation Modeling (SEM) supported the appropriateness of the proposed model and its capability to explain the relationships between variables in the study. Based on these research findings, the article provides recommendations, including enhancing faculty quality, improving infrastructure and facilities, diversifying programs, and enhancing university information dissemination to elevate the quality and quantity of future admissions.

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1. INTRODUCTION

In the rapidly advancing technological era, the selection of a university in the field of information technology and communications (ICT) plays a pivotal role in the career and success of every student. Universities not only impart specialized knowledge but also lay the groundwork and cultivate crucial skills for future career progression. Comprehending the factors that influence university choices in the realm of ITC holds significant importance. For universities, grasping these factors and implementing appropriate admission policies becomes essential to attract and retain high-caliber students.

In this context, the present research pay attention on exploring and examining the factors that influence decisions to opt for Thai Nguyen University of Information and Communication Technology (ICTU), a notable destination in this domain within Vietnam. By evaluating and assessing these factors, this study endeavors to provide essential insights to universities and admissions experts, thereby shaping suitable admission strategies and developing effective programs.

The article delves deeply into studying the factors related to the university, meticulously elucidating the research process, methods of data collection, and critical findings. Specific aspects concerning the curriculum, faculty, infrastructure, tuition fees, financial aid, post-graduation employment, and career counseling will be scrutinized to offer recommendations and insights for enhancing admissions and fostering training in the field of ITC.

With the objective of elucidating the factors influencing decisions to choose ICTU, this research aspires to enhance the quality of education and foster an optimal learning environment for students. By analyzing and evaluating these pivotal factors, the study will facilitate a better understanding of the criteria and considerations that high school students employ while selecting their university. This, in turn, will be crucial in addressing students' needs and expectations, leading to the development of appropriate training programs and provision of suitable services.

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Furthermore, the research will also provide valuable information for the management and leadership of universities in the field of ICTU. Understanding the factors influencing university choices will enable them to improve teaching quality, elevate student satisfaction, and attract more high-achieving students.

Ultimately, this study holds significance for the broader community as well. By furnishing detailed information about the factors students consider while selecting ICTU, stakeholders, including parents and students, will be equipped to make informed and wise decisions regarding their educational pursuits. Results of ICTUs' Admissions in the Past 3 Years by Major Groups Table 1.

Table 1. Admissions Results of ICTU for the Past 3 Years

Major Groups	Year 2020	Year 2021	Year 2022
Information Technology	883	1047	1100
Economy and Digital Management	229	250	365
Arts and Journalism-Communication	341	362	416
Engineering and Digital Technology	224	278	278
Total	1781	1937	2159

1.1. Theoretical Foundation and Research Framework

Selecting a profession involves the process of exploration and decision-making regarding the future career or field of study an individual intends to pursue. This decision-making process entails identifying personal interests, skills, capabilities, and career aspirations. The act of choosing a profession is widely recognized as a crucial and influential phase in an individual's future career and life. Opting for a profession that aligns with one's passions and abilities can significantly contribute to achieving a successful and fulfilling career.

Research on students' career choices is centered around examining factors associated with universities, such as the curriculum, faculty, infrastructure, financial support, post-graduation employment opportunities, and career guidance services. The study aims to identify the factors that influence the decisions of students opting for ICTU. To analyze how these factors impact students' career decisions, the author utilizes education quality factors from D.W. Chapman's 1981 study.

The model uncovers essential factors that play a role in students' decisions to choose ICTU. These factors include the quality of teaching, safety and learning environment, financial support and scholarships, as well as access to information sources and counseling support. This study adopts a multidimensional approach to better comprehend the various factors influencing students' choices of universities. In examining the specific reasons behind students' selection of ICTU, the author incorporates personal and counseling factors from M.J. Burn's 2006 research.

Further research aims to explore the factors influencing students' university choices in Singapore. The results indicate that influencing factors comprise the university's location

and facilities, teaching quality and learning environment, employability and career prospects after graduation, cost and financial support, as well as the university's reputation. Additionally, the research reveals that students' university choices are often influenced by a combination of these factors. For this study, the author will employ geographic location and university reputation factors from Joseph Sia Kee Ming's 2010 research to analyze their impact on students' decisions to choose ICTU.

A study conducted in Malaysia seeks to evaluate the factors influencing students' decisions to choose a university. The study results indicate that the most significant factors in university choices encompass teaching quality and learning environment, employability and career prospects after graduation, the university's location and facilities, cost and financial support, and the university's reputation. To consider the employer's perspective on high school students' choices for ICTU, the author will integrate the employability and career prospects factor from Russayani Ismail's 2010 research into this study.

Another research study focused on identifying the factors that influence prospective job opportunities at Pennsylvania State University in the United States (Cabrera, et al., 2000). The study offers valuable insights into the factors that affect students' decision-making process when choosing a university, including their consideration of future learning and employment prospects. To achieve this, the author utilized the analysis of future employment opportunity factors from Cabrera et al.'s study in 2000 and applied it to the decision-making process of choosing ICTU.

Similarly, a study conducted in Vietnam aimed to evaluate the factors influencing students' decisions in selecting a university (Tran Van Quy and Cao Hao Thi, 2010). The research uncovered that various factors, such as personal interests, the influence of family and friends, and the potential to meet future job requirements, can impact students' choices in their university selection. Additionally, cultural factors, including alignment with family and societal values and perspectives, were also found to influence students' decisions. To delve deeper into these factors influencing the decision to choose ICTU, the author incorporated the results regarding the influence of family and friends from Tran Van Quy and Cao Hao Thi's research in 2010, while also considering the roles of homeroom teachers, universities, and employers.

Another study in Vietnam focused on assessing the factors influencing students' university choices (Luu Ngoc Liem, 2010). This research revealed that personal aspects such as interests, personality, and individual benefits can significantly impact students' decisions when selecting a university. Additionally, social factors, such as the influence of family, friends, and society, were found to play a crucial role in students' decision-making process. In this study, the author performed a specific analysis, considering elements like interests, abilities, future aspirations, and desires, to draw conclusions about how these factors influence the decision to choose ICTU, based on the personal factors observed in Luu Ngoc Liem's research in 2010.

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Another study sought to understand the factors influencing the university selection process for students (Nguyen Thi Kim Nhung, Luong Thi Thanh Vinh, 2018). The study identified various factors, such as personal goals, the university's reputation, the quality of education, proximity to home, and entrance exam scores, as significant drivers in students' university choices. Additionally, family and social factors were found to significantly influence students' decisions when choosing a university. For this study, the author analyzed the research findings on university reputation, the quality of education, and proximity to home from Nguyen Thi Kim Nhung and Luong Thi Thanh Vinh's research in 2018 to explore the factors related to students' intentions in choosing a field of study, considering aspects such as the quality of education, the university's reputation, and the geographic location of the university.

Similarly, another research study focused on identifying the factors influencing students' university selection process (Nguyen Manh Ha et al., 2011). Critical factors, ranging from strongest to weakest, included the diversity and attractiveness of training programs, the characteristics of the university, the ability to meet post-graduation expectations, the university's communication efforts, and the university's reputation. The author used the recommendations from Nguyen Manh Ha et al.'s research in 2011 to present their own recommendations based on these factors.

Lastly, a fifth study also aimed to determine the factors influencing students' university selection process (Nguyen Phuong Toan, 2011). This research identified significant factors, from strongest to weakest, such as the diversity and attractiveness of training programs, the characteristics of the university, the ability to meet post-graduation expectations, the university's communication efforts, and the university's reputation. In this study, the author incorporated the analysis results on the ability to meet post-graduation expectations from Nguyen Phuong Toan's research in 2011 to explore the impact of these factors on the decision to choose ICTU.

2. RESEARCH METHOD

2.1. Proposed Research Model

Based on related studies and theoretical foundations, the author proposes the research model as shown in Figure 1, comprising 6 independent factors and one dependent factor.

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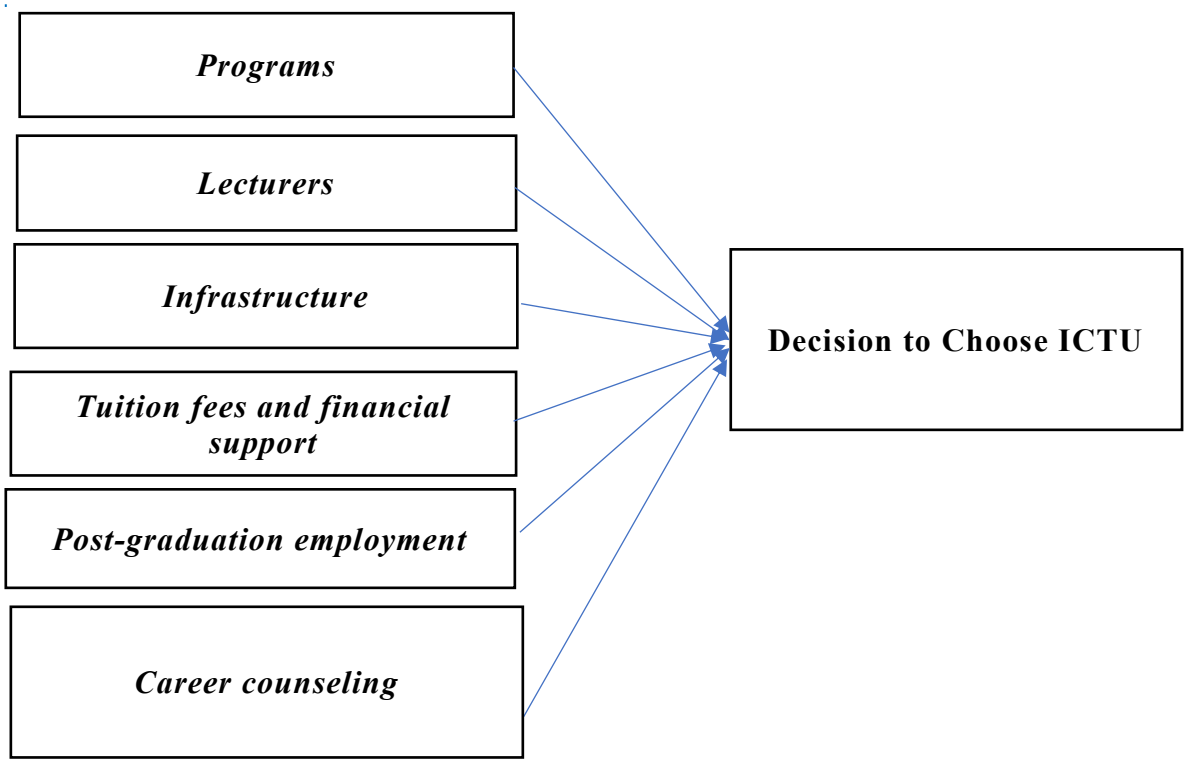


Figure 1. Research Model

2.2. Research Hypotheses

Hypothesis H0: ICTU's programs do not affect their decision to choose the university. Hypothesis H1 will be tested using variables DT1 to DT6 to either support or reject hypothesis H0.

Hypothesis H1: The faculty team's factor does not influence their decision to choose ICTU. The variable DNGV will be used to examine this hypothesis.

Hypothesis H2: The infrastructure factor has no impact on their decision to choose ICTU. The variables CSVC will be analyzed to make conclusions about hypothesis H2.

Hypothesis H3: Tuition fees and financial support do not influence their decision to choose ICTU. The variable HP will be used to determine the outcome of hypothesis H3.

Hypothesis H4: Post-graduation employment does not affect their decision to choose ICTU. Four variables VL will be used to test hypothesis H4.

Hypothesis H5: Career counseling does not influence their decision to choose ICTU. Finally, the group of variables TV will address hypothesis H5.

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Table 2. Explanation of observed variables in the research model

Factors	Variable names	Symbols	Scale of measurement	
Programs	The program offering various majors for students to choose from	DT1	Likert 1-5	1=Strongly disagree, 2=Disagree, 3=No opinion, 4=Agree, 5=Strongly agree.
	The program which meets the society's needs	DT2	Likert 1-5	1=Strongly disagree, 2=Disagree, 3=No opinion, 4=Agree, 5=Strongly agree.
	The high rate of students finding jobs in their field after graduation	DT3		1=Strongly disagree, 2=Disagree, 3=No opinion, 4=Agree, 5=Strongly agree.
	Graduates with a high income	DT4		1=Strongly disagree, 2=Disagree, 3=No opinion, 4=Agree, 5=Strongly agree.
	The program offering linkage between different majors	DT5	Likert 1-5	1=Strongly disagree, 2=Disagree, 3=No opinion, 4=Agree, 5=Strongly agree.
	The program having the balance between theory and practice	DT6	Likert 1-5	1=Strongly disagree, 2=Disagree, 3=No opinion, 4=Agree, 5=Strongly agree.
Lecturers	Lecturers with a satisfactory level of high qualifications	DNGV1	Likert 1-5	1=poor, 2=weak, 3=average, 4=good, 5=excellent
	Lecturers with enthusiastic and dedicated in teaching	DNGV2	Likert 1-5	1=poor, 2=weak, 3=average, 4=good, 5=excellent
	Lecturers utilizing clear and comprehensible teaching methods	DNGV3		1=poor, 2=weak, 3=average, 4=good, 5=excellent
	Lecturers providing professional guidance for practical exercises.	DNGV4		1=poor, 2=weak, 3=average, 4=good, 5=excellent
	Lecturers with practical experience	DNGV5	Likert 1-5	1=poor, 2=weak, 3=average, 4=good, 5=excellent
Facilities	Sufficient and well-equipped classrooms to meet students' learning needs.	CSVC1	Likert 1-5	1=very few, 2=few, 3=normal, 4=many, 5=very many.
	Adequate canteens to cater to students' dining needs.	CSVC2		1=very few, 2=few, 3=normal, 4=many, 5=very many.
	Playgrounds and exercise areas for communal activities.	CSVC3	Likert 1-5	1=very few, 2=few, 3=normal, 4=many, 5=very many.
	A well-stocked, neat, and modern library.	CSVC4		1=very few, 2=few, 3=normal, 4=many, 5=very many.
	Ensuring security and order within the campus	CSVC5	Likert 1-5	1 = Not at all necessary 2 = Not necessary 3 = Normal 4 = Necessary 5 = Very necessary
Tuition fees and financial support	Low tuition fees	HP1	Likert 1-5	1=very few, 2=few, 3=normal, 4=many, 5=very many.
	Simple tuition payment for students	HP2	Likert 1-5	1=very few, 2=few, 3=normal, 4=many, 5=very many.
	High scholarships for many individuals	HP3	Likert 1-5	1 = Not at all necessary 2 = Not necessary 3 = Normal 4 = Necessary 5 = Very necessary
	Good loan and financial support system for students.	HP4		1 = Not at all necessary 2 = Not necessary 3 = Normal 4 = Necessary 5 = Very necessary
	Various types of scholarships available for students.	HP5		1 = Not at all necessary 2 = Not necessary 3 = Normal 4 = Necessary 5 = Very necessary

	High post-graduation employment rate	VL1	Likert 1-5	1= very low, 2=Low, 3= Medium,4=High, 5= Very high.
	High post-graduation income	VL2	Likert 1-5	11 = Not at all necessary 2 = Not necessary 3 = Normal 4 = Necessary 5 = Very necessary
Post-graduation employment	Employment support policies during the study period	VL3	Likert 1-5	1 = Not at all necessary 2 = Not necessary 3 = Normal 4 = Necessary 5 = Very necessary
	Collaboration with employers for students' choices	VL4		1 = Not at all necessary 2 = Not necessary 3 = Normal 4 = Necessary 5 = Very necessary
	Diverse and comprehensive career counseling providing abundant information to students	TV1	Likert 1-5	1 = Not at all necessary 2 = Not necessary 3 = Normal 4 = Necessary 5 = Very necessary
	Professional and enthusiastic counseling team	TV2	Likert 1-5	1 = Not at all necessary 2 = Not necessary 3 = Normal 4 = Necessary 5 = Very necessary
Career counseling	Counseling team actively resolves students' inquiries.	TV3	Likert 1-5	1 = Not at all necessary 2 = Not necessary 3 = Normal 4 = Necessary 5 = Very necessary
	Various and easily understandable counseling methods	TV4		1 = Not at all necessary 2 = Not necessary 3 = Normal 4 = Necessary 5 = Very necessary
	Choosing a university based on personal preferences	QD1	Likert 1-5	1 = Not at all necessary 2 = Not necessary 3 = Normal 4 = Necessary 5 = Very necessary
	Choosing a university based on geographical location	QD2	Likert 1-5	1 = Not at all necessary 2 = Not necessary 3 = Normal 4 = Necessary 5 = Very necessary
University selection decisions	Choosing a university based on career counseling	QD3	Likert 1-5	1 = Not at all necessary 2 = Not necessary 3 = Normal 4 = Necessary 5 = Very necessary
	Choosing a university for higher post-graduation income.	QD4		1 = Not at all necessary 2 = Not necessary 3 = Normal 4 = Necessary 5 = Very necessary

2.3. Result

3. RESULTS AND DISCUSSION

To test the research model, the following analysis methods were used: The reliability test of the measurement scale using Cronbach's Alpha coefficient, Exploratory Factor Analysis (EFA), and Confirmatory Factor Analysis (CFA). In this study, all the measurement scales used to assess the observed variables were in Likert 5-point format. Data analysis was conducted with the assistance of SPSS 20.0 software.

The survey participants included students admitted to the university in 2022, with a sample size of 1,578. The survey was conducted online from 01/09/2022 to 30/11/2022. The survey successfully collected responses from 1,578 enrolled students. According to Hair et al. (1998), for Exploratory Factor Analysis (EFA), the minimum sample size should be five times the total number of indicators in the measurement scales. This study's questionnaire

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included 23 indicators used in the factor analysis. Therefore, the minimum required sample size is: 23 * 5 = 115 < 1,578. Thus, the sample size ensures the statistical analysis condition. The characteristics of the survey participants are presented in Table 2.

Table 3. Some characteristics of the survey sample

Participant Group		Number of Observations	Percentage (%)
Place of Family Residence	Special difficult areas	16	1.1
	Highland areas	147	9.3
	Rural areas	903	57.15
	Town areas	362	22.91
	City areas	152	9.62
Family Economic Condition	Poor households	71	4.49
	Near-poor households	78	4.94
	Average households	1137	71.96
	Wealthy households	201	12.72
	Affluent households	93	2.89
Gender	Male	985	62.34
	Female	595	37.66

Source: Compiled by the author from the research results

Most of the surveyed students reside in rural areas (57.15%) and come from families with an average economic condition (71.96%). The majority of participants are male (62.34%).

3.1. Results of the research model based on Exploratory Factor Analysis (EFA)

3.1.1 Testing the Reliability of the Measurement Scales Using Cronbach's Alpha Coefficient

All measurement scales were evaluated through Cronbach's Alpha coefficient and Exploratory Factor Analysis (EFA). To ensure the reliability of the measurement scales in the study, the observed variables must meet the requirement of having a Corrected item – Total Correlation greater than or equal to 0.3 and a Cronbach's Alpha coefficient greater than or equal to 0.6. If the observed variables do not meet these requirements, they will be excluded. The final step is to test the model using the multivariate regression method with a significance level of 5%.

Table 4. Results of Cronbach's Alpha analysis

No	Variable Group	Number of Variables	Cronbach's Alpha

1	Program	6	0.957
2	Lecturers	5	0.904
3	Infrastructure	5	0.906
4	Tuition Fees and Financial Support	5	0.902
5	Post-Graduation Employment	4	0.894
6	Career Counseling	4	0.870
7	Decision-Making	4	0.878

From the results in Table 3, it can be seen that the measurement scales meet the standard as all variable groups have Cronbach's Alpha coefficients that satisfy the condition of being greater than 0.6.

3.1.2. Results of Exploratory Factor Analysis (EFA)

3.1.2.1. Suitability Test of EFA

The Kaiser-Meyer-Olkin (KMO) measure is an index used to assess the suitability of factor analysis. The results in Table 4 show that the KMO coefficient is 0.763, which satisfies the condition of being greater than 0.5 and less than 1. Therefore, the exploratory factor analysis is appropriate for the survey data.

Table 5. KMO and Bartlett's Test

Kaiser-Meyer-Olkin		**Measure of Sampling Adequacy.**	**0.980**
Bartlett's Test	of Sphericity	Approx. Chi-Square	33820,939
		Df	528
		Sig.	0.000

3.1.2.2. Test of Correlation among Observed Variables

From the results in Table 4, the Bartlett's test has a significant level of Sig. = 0.000, which is less than 0.05. This indicates that the observed variables have a linear relationship with the principal components.

3.1.2.3. Test of the Explained Variance of the Observed Variables for the Factors

Table 6. Total Variance Explained

Initial Eigenvalues			**Extraction Sums of Squared Loadings**			**Rotation Sums of Squared Loadings**		
Total	**% of Variance**	**Cumulative %**	**Total**	**% Variance**	**ofCumulative %**	**Total**	**% Variance**	**ofCumulative %**
19,737	59,808	59,808	19,737	59,808	59,808	7,774	23,557	23,557
1,577	4,778	64,585	1,577	4,778	64,585	6,532	19,794	43,352
1,318	3,993	68,579	1,318	3,993	68,579	5,808	17,599	60,950
1,027	3,113	71,691	1,027	3,113	71,691	3,544	10,741	71,691
,800	2,423	74,114						
,642	1,945	76,060						
,552	1,673	77,732						
,546	1,656	79,388						

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Based on the Cumulative column of Table 5, we can see that the extracted variance value is 71.69%. This indicates that 71.69% of the variation in the factors is explained by the observed variables. Through the assessment of the measurement scale's quality and the EFA model, four latent factors influencing the career choices of high school students in Thai Nguyen province have been identified.

From the results of the Rotated Component Matrix, the following four newly extracted factors can be named as follows:

- Factor 1: Program_Lecturers (DT_GV) consisting of 11 variables (DT1 - DT6, GV1-GV5).
- Factor 2: Infrastructure_Tuition Fees (CSVC_HP) consisting of 10 variables (CSVC1-CSVC5, HP1-HP5).
- Factor 3: Employment_Counseling (VL_TV) consisting of 8 variables (VL1-VL4, TV1-TV4).
- Factor 4: Decision (QD) consisting of 4 variables (QD1, QD2, QD3, QD4).

3.1.3. Multivariate Regression

The results of the ANOVA (Analysis of Variance) table for the multivariate regression model are presented. The Model Summary table provides information about the performance of the multivariate regression model, including the model's explanatory power and the degree of discrepancy between predicted values and actual values of the dependent variable.

Table 7. Results of the regression on factors influencing the choices ICTU

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,849a	,721	,718	,34279	1,851

ANOVAa

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	705,509	21	33,596	285,914	,000b
	Residual	273,311	2326	,118		
	Total	978,820	2347			

Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	,239	,086		2,787	,005
	DT_GV	,485	,039	,448	12,489	,000
	CSVC_HP	,213	,042	,179	5,052	,000
	VL_TV	,273	,044	,214	6,157	,000

Based on the results in Table 6, there is significant linear dependence between the input variables and the dependent variable, with an R Square of 0.718. This means that 71.8% of the variation in the dependent variable can be explained by the variation in the input variables in the model. The Adjusted R Square (0.721) indicates the modified

discrepancy of R Square, adjusting for the inclusion of unnecessary input variables in the model. In this case, the Adjusted R Square is very close to R Square, indicating that the selected model has no redundancy.

The F-Statistic (285.914) in the ANOVA table shows that the model is reliable with a very low p-value (0.000b), demonstrating that all input variables have a significant influence on the dependent variable. The Durbin-Watson statistic (1.851) measures the correlation between predicted values and residuals of the model. In this case, the Durbin-Watson statistic falls between 1 and 2, indicating that there is no existence of autocorrelation in the data.

These results are from the ANOVA table of the multivariate regression model. The F-value in the ANOVA table is 285.914, with a highly significant p-value (Sig.) of 0.000b, indicating statistical significance of the model.

Based on the results in the Coefficients table, we can conclude the impact of the independent variables on the dependent variable. DT_GV (with an estimated coefficient of 0.387, $p < 0.001$), CSVC_HP (with an estimated coefficient of 0.188, $p < 0.001$), and VL_TV (with an estimated coefficient of 0.347, $p < 0.001$) have significant influences on the dependent variable QD at the significance level of 0.05 and Beta values greater than 0.1.

Additionally, when all independent variables are run with the dependent variable QD, the results show that the variables strongly correlated with the dependent variable are CSCV1 (Beta = 0.124, $p = 0.002$), CSCV4 (Beta = 0.176, $p = 0.023$), HP3 (Beta = 0.182, $p = 0.022$), VL3 (Beta = 0.179, $p = 0.025$), DT2 (Beta = 0.212, $p = 0.027$), DT4 (Beta = 0.116, $p = 0.037$), DNGV1 (Beta = 0.101, $p = 0.028$). Other variables show moderate or weak correlation with the dependent variable.

Based on the ANOVA results with a Sig. value of 0.000a, which means $p < .05$, for the factor DT_GV (DT1 - DT6, GV1-GV5), we reject the null hypothesis (H0) and accept the alternative hypothesis (H1), meaning that the programs and faculty members at the ICTU have an influence on students' school choice decisions.

Similarly, with a Sig. value of .000a, which means $p < .05$, for the factor CSVC_HP, including 10 variables (CSVC1-CSVC5, HP1-HP5), we reject the null hypothesis (H2) and H3, indicating that infrastructure and tuition fees have an influence on students' school choice decisions.

Lastly, for the factor of employment and counseling (VL_TV), including 8 variables (VL1-VL4, TV1-TV4), we also reject the null hypothesis (H4) and H5, meaning that post-graduation employment and counseling have an influence on students' school choice decisions.

3.2. Confirmatory Factor Analysis (CFA) Results

The results of the CFA analysis in Figure 1 show that the standardized loadings of all variables are greater than 0.5, indicating that the model achieves convergent validity.

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Common indices used to assess the model's compatibility with the data, including $\chi 2$ (Chi-square), $\chi 2$/df (Chi-square/degrees of freedom), GFI, CFI, TLI, RMSEA, and PCLOSE, are considered.

The results indicate that $\chi 2$ is 634.2 with a corresponding p-value of 0.000, and $\chi 2$/df is 2.62, which is less than 3. The values for CFI, TLI, GFI are 0.916, 0.905, and 0.824, respectively, while RMSEA is 0.8. These results indicate the unidirectional nature of the influence and decision-making factors' measurement scales. According to the standards of Hu & Bentler (1999), after standardizing the values, the GFI is 0.834, CFI is 0.922, TLI is 0.909, and RMSEA is 0.078, which are all below 0.8.

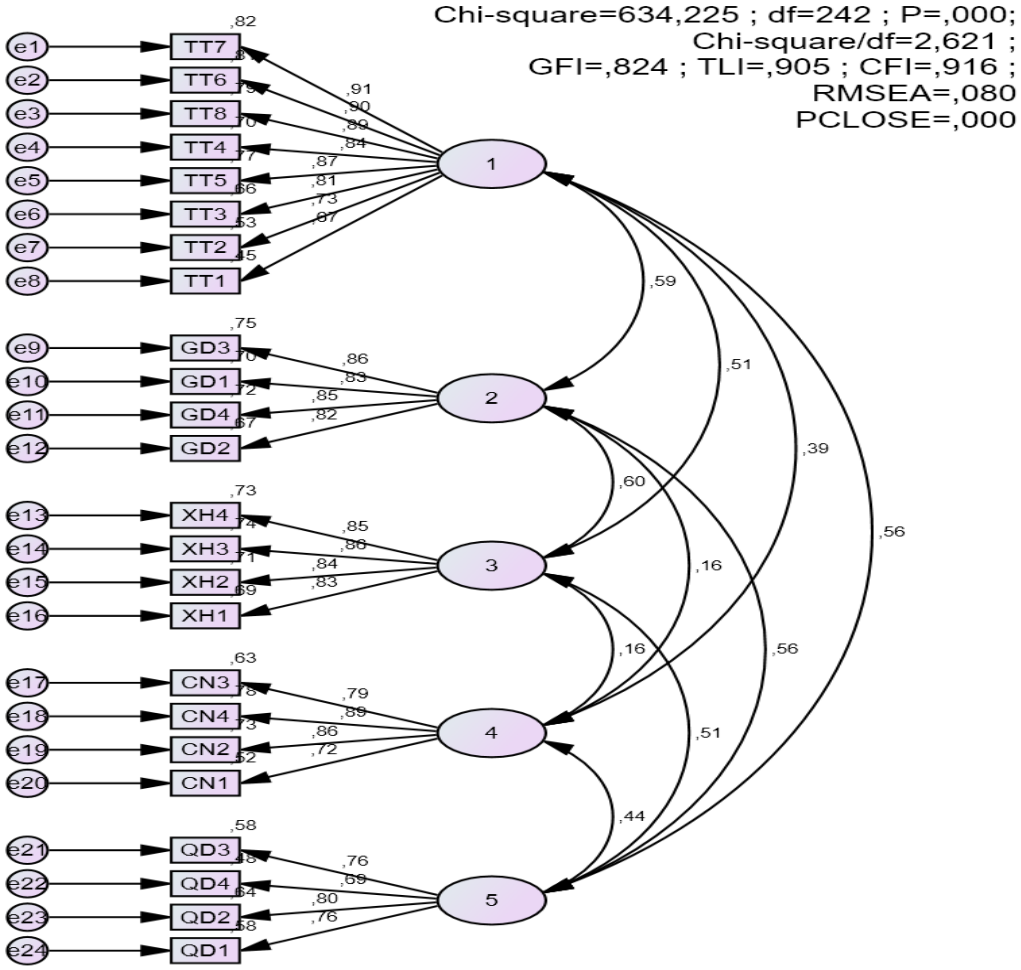


Figure 2. Unnormalized CFA analysis results

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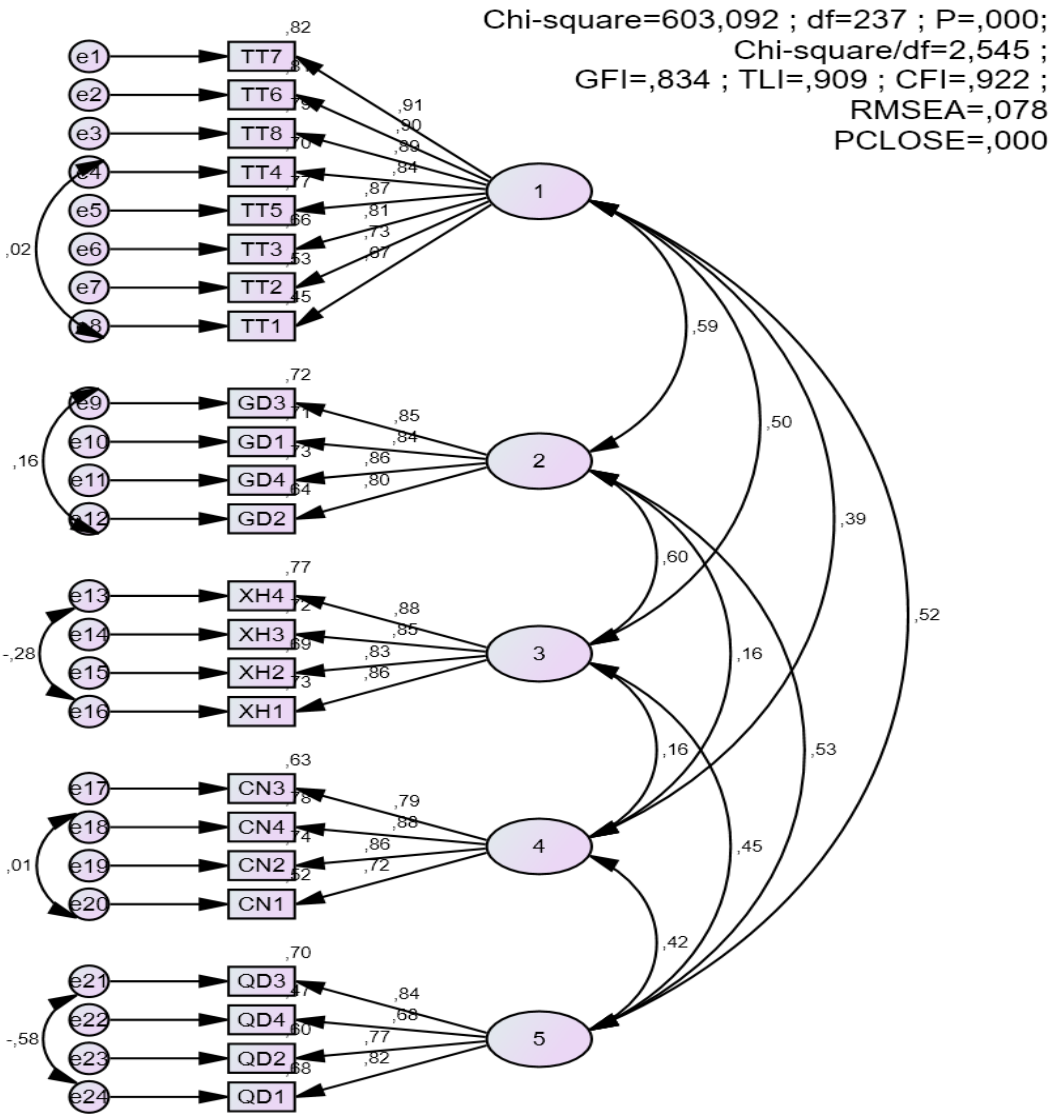


Figure 3. Results of the standardized CFA model

3.3. Results of the Structural Equation Model (SEM)

The results of the SEM model in Figure 2 show that the value of $\chi 2$ is 624.7, with 238 degrees of freedom and a p-value of 0.000. The Chi-square/df value is 2.62, which is less than 3. The values of CFI and TLI are higher than 0.90, GFI is 0.825, and RMSEA is 0.076, which indicates a good fit of the model to the data.

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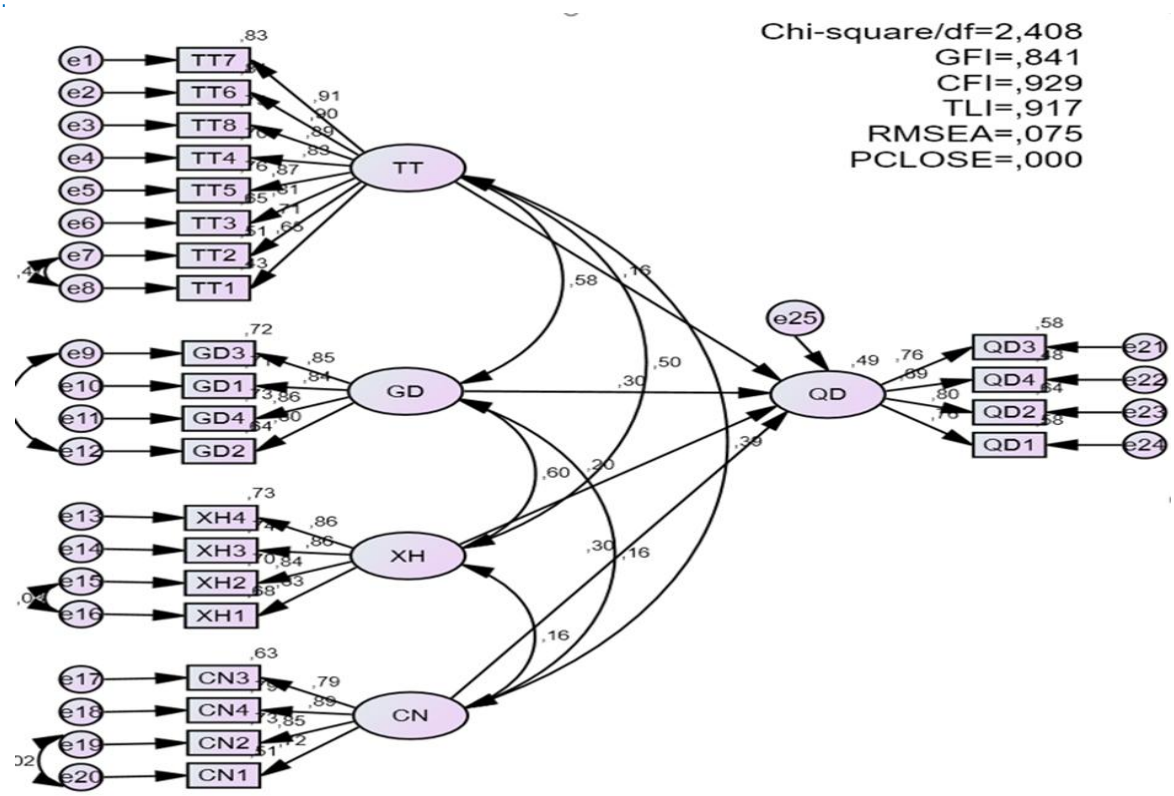


Figure 4. Results of the SEM model

Based on the results of the tables: Regression Weights, Standardized Regression Weights, Covariances, Variances, and Squared Multiple Correlations, the following conclusions can be made: The variables DT_GV, CSVC, VL_TV have a positive influence on the dependent variable QD (The regression weight between QD and DT_GV is 0.387, the regression weight between QD and CSVC is 0.188, and the regression weight between QD and VL_TV is 0.347). The values of the standardized regression coefficients range from 0.188 to 0.387. The variable DT2 (beta = 0.212, p = 0.027) has the highest standardized regression weight, indicating the strongest influence on the variable QD.

Furthermore, based on the results of the Squared Multiple Correlations table, we have estimated values (Estimates) for variables related to the decision-making factor in choosing ICTU.

The variables with high Squared Multiple Correlations estimates (above 0.7) are DT4, DT6, DT5, DT3, DT2, DT1, HP5, QD, HP1. This indicates that these variables have a high explanatory power and significantly influence the decision to choose the Information Technology and Communication University of Thai Nguyen.

The variables with moderate Squared Multiple Correlations estimates (ranging from 0.6 to 0.7) are CSVC5, DNGV1, VL4, HP4, QD4. These variables also have a fairly good explanatory power and a significant influence on the decision to choose the university.

4. CONCLUSION

Based on the findings presented in the research, the following key conclusions can be made:

All groups of variables exhibit Cronbach's Alpha coefficients exceeding 0.6, indicating strong reliability and suitability for measuring aspects relevant to the study.

The KMO index result of 0.908 demonstrates that the data sample is well-suited for factor analysis. Additionally, Bartlett's Test reveals significant differences between the observed covariance matrix and the unit covariance matrix, with a p-value below 0.05, allowing for the application of factor analysis on this dataset.

The results derived from the multiple regression model, based on KMO, Bartlett's Test, extracted variance, and ANOVA table, suggest that the multiple regression model used to assess the factors influencing vocational decisions among high school students in Thai Nguyen province is appropriate. Variables such as CSCV1, CSCV4, HP3, VL3, DT2, DT4, and DNGV1 are notably correlated with the dependent variable, the vocational decision (QD). The proposed model demonstrates a good fit, as indicated by satisfactory evaluation indices (CFI, TLI) and accuracy metrics (GFI, RMSEA). However, it should be acknowledged that the evaluation of the multiple regression model's results offers a relative conclusion and may not comprehensively encompass all factors affecting students' vocational decisions.

The SEM model presented in Figure 2 exhibits promising outcomes. The chi-square value is 3408, with 484 degrees of freedom and a p-value of 0.000, indicating statistically significant and highly reliable results. The Chi-square/df value is 7.04, falling below 10, signifying a good fit between the model and the data. Furthermore, both CFI and TLI are higher than 0.9, approaching 1, demonstrating that the model is well-fitted to the sample data. GFI is 0.826, suggesting the model's capability to explain variances and covariances. RMSEA is 0.077, below the acceptable threshold of 0.08, indicating a good fit of the model to the data. Therefore, it can be concluded that the SEM model in Figure 2 is suitable for the data and can effectively explain the relationships between variables within the model.

Based on the research results, the following recommendations are proposed:

Enhance the quality of the faculty (variable DT_GV): It is recommended to prioritize ensuring that the faculty possesses high qualifications. As previously stated, variable DT_GV exerts a positive influence on the university choice decision. Thus, the university should concentrate on equipping the faculty with ample expertise and teaching skills.

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Improve infrastructure and facilities (variable CSVC): Variable CSVC also positively impacts the university choice decision. The university can invest in enhancing infrastructure and facilities to create a more favorable learning environment for students.

Diversify programs (variable VL_TV): Variable VL_TV also exhibits a positive influence on the university choice decision. The university may explore expanding and diversifying programs, offering majors and specializations that align with students' needs.

Strengthen information and promotional efforts about the university (variable DT2): Variable DT2 holds the highest standardized regression weight and exerts the strongest influence on the university choice decision. Therefore, the university should focus on bolstering information and promotional activities, emphasizing its strengths and learning opportunities to attract prospective students.

In addition, it is worth noting that variables mentioned in the Squared Multiple Correlations table also significantly impact the university choice decision. Consequently, the university should pay attention to reinforcing factors like the learning environment (variables DT4, TV2).

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