

FACTORS AFFECTING STUDENTS' SATISFACTION WITH THE TRAINING QUALITY AT CAN THO TECHNICAL ECONOMIC COLLEGE

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Abstract: *This article analyzes the factors affecting students' satisfaction with the training quality at Can Tho Technical Economic College. The research data was collected through a survey of 180 students currently studying at the college. Methods used in the study include reliability testing of the measurement scales using Cronbach's alpha coefficient, exploratory factor analysis, and multiple linear regression analysis. The results reveal that factors influencing students' satisfaction with the college's training quality include Institutional Reputation and Credibility, Facilities and equipment, Training program, and Faculty quality. Among these factors, faculty quality is the most influential factor affecting students' satisfaction with training quality.*

Keywords: *Economics college, quality, satisfaction, students, training*

I. Introduction

In the context of the Fourth Industrial Revolution and the growing demand for high-quality human resources, the quality of training at educational institutions, particularly at the college level, has become a matter of both practical and theoretical concern. Practically, improving training quality is essential not only for enhancing institutional competitiveness but also for meeting learners' expectations and the evolving requirements of the labor market (Nguyen & Pham, 2022). For Can Tho Technical Economic College (CTEC), student satisfaction with the training process serves as an important measure of educational

effectiveness and institutional success. It also contributes to building the school's reputation and attracting future enrollments.

Theoretically, student satisfaction has been widely recognized in the literature as a crucial indicator for evaluating service quality in higher education. Parasuraman et al. (1988) proposed the SERVQUAL model, which suggests that service quality, including educational services, can be assessed through dimensions such as reliability, responsiveness, assurance, empathy, and tangibles. When applied to the education sector, these translate into factors like faculty engagement,

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curriculum quality, learning facilities, and academic support, all of which directly influence students' learning experiences and perceptions of quality.

Given the importance of understanding what drives student satisfaction, this study aims to investigate the key factors influencing students' satisfaction with training quality at CTEC. By capturing students' perspectives, the research not only supports institutional efforts to improve educational services but also contributes to the growing body of knowledge on student satisfaction in the Vietnamese college context. The findings are expected to offer practical recommendations for CTEC and provide implications for improving the overall quality of training in similar institutions nationwide.

II. Theoretical framework

2.1. Theories on training quality

Training quality in higher education is a complex and multidimensional concept, with no universally agreed-upon definition (Harvey & Green, 1993). According to Cheng and Tam (1997), training quality is characterized by a range of input, process, and output factors within the educational system. It encompasses services that satisfy the needs of students and societal demands for education. Training quality results from the positive interaction of all components of the educational system and the effective operation of the training process within a specific environment.

The SERVQUAL model (Service Quality), developed by Parasuraman et al. (1988), serves as a tool for measuring service quality based on the gap between customer expectations and actual perceptions. Applied to education and training, service quality analysis can be conducted through factors such as the reliability of the curriculum, faculty responsiveness, and facilities.

2.2. Theories on satisfaction

One of the most significant theories on satisfaction is Oliver's Expectancy-Disconfirmation Theory (1977). This theory posits that an individual's satisfaction arises from comparing actual outcomes with expectations. Actual outcomes refer to an individual's achievements, while expected outcomes represent what they hope or anticipate achieving. If the actual outcomes exceed the expected outcomes, the individual feels satisfied. Conversely, if the actual outcomes fall short of expectations, dissatisfaction arises. Satisfaction with training quality focuses on learners' contentment with their learning experiences.

Herzberg's Two-Factor Theory (1966) suggests that two factors drive satisfaction: hygiene and motivators. This theory is applied to identify motivational factors that enhance students' satisfaction with their learning experience.

The Kano Model, developed by Noriaki Kano (1984), classifies factors affecting customer satisfaction into three main categories: basic factors, performance factors, and excitement factors. This framework needs to be analyzed when evaluating elements such as facilities, faculty, or extracurricular activities in education and training.

2.3. Factors affecting students' satisfaction with the training quality

Tang and Zairi (1998) emphasized that teaching skills and faculty interaction influence student satisfaction. The HEDPERF (Higher Education Performance) model developed by Firdaus (2005) also highlights the role of faculty in enhancing students' learning experiences. Hill et al. (2003) pointed out that adequate facilities are crucial in creating an effective learning environment. Similarly, Alves and Raposo (2007) underlined the relationship between facilities, satisfaction, and student

loyalty, emphasizing the importance of investment in educational infrastructure.

Chen and Hsiao (2010) stressed that the relevance and currency of training programs strongly impact student satisfaction, while Soutar and Turner (2002) argued that program flexibility contributes to attracting and retaining students. Moreover, Astin (1999) showed that participation in extracurricular activities positively influences student engagement and satisfaction. Kuh (2003) confirmed that such activities help students develop soft skills and enhance their learning experience.

Additionally, Kirkwood and Price (2005) emphasized that information technology improves learning experiences through online platforms. Brown and Mazzarol (2009) highlighted that a strong institutional reputation fosters trust and pride,

significantly impacting student satisfaction. Palacio et al. (2002) identified reputation as a key determinant in students' decisions to remain engaged with their institution.

Overall, the literature has examined numerous factors influencing student satisfaction. However, studies are not integrating faculty, facilities, and training programs into a comprehensive model. Furthermore, empirical research on colleges in Vietnam remains limited.

III. Research model and methodology

3.1. Research model

Based on the theoretical foundation of training quality and satisfaction, as well as the findings of relevant empirical studies, the proposed theoretical research model is as follows:

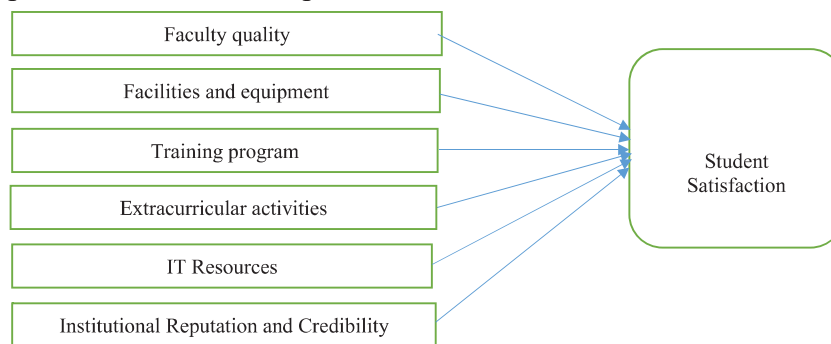


Figure 1. Proposed research model

Source: Author's compilation, 2024

Research Hypotheses:

H₁: Faculty quality is positively correlated with students' satisfaction with training quality

H₂: Facilities and equipment are positively correlated with students' satisfaction with training quality

H₃: The training program is positively correlated with students' satisfaction with training quality

H₄: Extracurricular activities are positively correlated with students' satisfaction with training quality

H₅: Information technology resources are positively correlated with students' satisfaction with training quality

H₆: The institution's reputation and credibility are positively correlated with students' satisfaction with training quality

Measurement scale:

The measurement scale for training quality is developed based on a synthesis of findings from relevant studies. The author adopts and modifies elements of the scale to suit the content and characteristics of the new research context. The observed variables in the measurement scales for training quality are presented in Table 1 below.

Table 1. The scale

Code	Scale	Source
FAC	Faculty Quality	
FAC1	Lecturers prepare lessons thoroughly and carefully	Tang & Zairi (1998); Trang et al. (2008)
FAC2	Lecturers deliver knowledge clearly and comprehensibly	
FAC3	Lecturers effectively utilize technology in teaching	
FAC4	Lecturers assist students in using technology for discussions and teamwork	
FAC5	Lecturers encourage students to apply technology in presentations and practice	
FCL	Facilities and Equipment	
FCL6	Classrooms are clean, spacious, and well-ventilated	Alves & Raposo (2007); Vo et al. (2015)
FCL7	Teaching tools are fully equipped, facilitating modern teaching	
FCL8	Students can access the internet anywhere on campus	
FCL9	Digital databases and technology equipment support learning and research	
FCL10	The library provides sufficient materials for study and research	
PRG	Training Program	
PRG11	The school clearly and fully announces the program objectives	Chen & Hsiao (2010); Vo et al. (2015)
PRG12	The program equips students with adequate knowledge to meet societal needs	
PRG13	The program helps students develop practical application skills	
PRG14	The program fosters students' autonomy and responsibility	
PRG15	Course content is regularly updated to keep pace with technological innovations	
ECA	Extracurricular Activities	
ECA16	The school offers many useful extracurricular clubs for students	Kuh (2003)
ECA17	The school organizes workshops to train soft and research skills, supporting participation in career fairs, scientific forums, and entrepreneurship	
ECA18	Extracurricular activities provide students with practical experiences	
ECA19	Extracurricular activities enhance students' interaction and teamwork skills	
ECA20	The school connects with enterprises, exposing students to real-world environments	
ITR	IT Resources	
ITR21	The school's IT infrastructure is modern	Kirkwood & Price (2005)
ITR22	IT faculty are highly qualified	
ITR23	Classrooms and libraries are equipped with adequate technology for research, teaching, and learning	
ITR24	The school frequently updates knowledge and technology	
ITR25	The school takes bold steps in digital transformation	
REP	Institutional Reputation and Credibility	
REP26	The school collaborates with universities and enterprises locally and internationally	Palacio et al. (2002); Tran et al. (2021)
REP27	The school organizes forums connecting students with business speakers	
REP28	Graduates are recognized for good ethics and high expertise	
REP29	The school's training programs are accredited for quality in the context of Industry 4.0	
REP30	The school is a public institution under Can Tho City People's Committee, invested in human resource development for the city and the Mekong Delta region	

Source: Author's compilation, 2024

3.2. Analysis methodology

The reliability of the measurement scale is assessed using Cronbach's alpha coefficient. Additionally, exploratory factor analysis (EFA) is employed to identify new groups of factors influencing

satisfaction with training quality. A multiple linear regression model is utilized to estimate the relationship between multiple independent variables and a dependent variable Y. The regression equation is expressed as follows:

$$Y_i = \alpha_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \dots + \beta_k X_{ki} + \varepsilon_i \quad (1)$$

Where:

Y: Dependent variable, representing students' satisfaction with the training quality at CTEC. Y is measured using a 5-point Likert scale.

$X_1, X_2, \dots, X_k$: Independent variables derived from the factor analysis results.

α : Estimated value of Y when k of X - variables are equal to 0.

β_k : Regression coefficients for the independent variables.

ε_i : Error term.

3.3. Research data

To ensure the reliability and validity of the research findings, especially when employing Exploratory Factor Analysis (EFA), it is critical to determine an appropriate sample size and sampling method. According to Nguyen (2011), for EFA to be effective, the minimum sample size should be at least 50, and the recommended observation-to-variable ratio is 5:1, meaning that for every observed variable, a minimum of five responses is required. In this study, the research instrument comprises 30 observed variables, thereby requiring a minimum sample size of 150 students ($30 \times 5 = 150$).

To increase representativeness and reduce potential sampling error, the study targeted a larger sample size. A total of 200 students currently enrolled at CTEC were invited to participate in the survey. The selection

of respondents followed a convenience sampling technique, a non-probability method suitable for exploratory research in educational settings (Hair et al., 2014).

The data collection was carried out using an online self-administered questionnaire, distributed via a survey link through internal communication channels of the college. This method was selected for its efficiency, low cost, and ability to reach a large number of students quickly. After data cleaning and screening for completeness and consistency, 180 valid responses were retained for further analysis, meeting the minimum requirement for EFA and ensuring sufficient statistical power.

IV. Results and discussion

4.1. Results of scale reliability testing and exploratory factor analysis

After conducting the reliability testing for the scale with 30 observed variables across six initial scales, 27 observed variables met the criteria for inclusion. Three variables, namely FAC5, PRG15, and ECA20, were excluded because their Cronbach's Alpha if Item Deleted values were higher than the Cronbach's Alpha of their respective scales. Subsequently, exploratory factor analysis was performed with the remaining 27 observed variables, resulting in the extraction of 6 new factor groups to be used in the subsequent regression analysis. The results of the factor rotation are presented in Table 2 below.

Table 2. Factor Rotation Results

Biến quan sát	Nhân tố					
	F1	F2	F3	F4	F5	F6
ITR25	0.868					
ITR24	0.859					
ITR23	0.837					
ITR22	0.822					
ITR21	0.643					
ECA17		0.885				
ECA18		0.876				

Biến quan sát	Nhân tố					
	F1	F2	F3	F4	F5	F6
ECA19		0.842				
ECA16		0.727				
REP28			0.843			
REP29			0.832			
REP27			0.829			
REP30			0.788			
REP26			0.765			
FCL7				0.879		
FCL8				0.786		
FCL9				0.753		
FCL6				0.745		
FCL10				0.616		
PRG12					0.867	
PRG13					0.855	
PRG11					0.793	
PRG14					0.764	
FAC2						0.819
FAC4						0.811
FAC3						0.769
FAC1						0.752
Eigenvalue				2.135		
Explained Variance (%)				78.366		
KMO				0.798		
Sig. of Bartlett				0.000		

Source: Data processing from a survey of 180 students at CTEC, 2024

4.2. Results of regression model analysis

The multiple linear regression method was used to estimate the factors influencing students' satisfaction with the training quality at CTEC. The regression results are presented in Table 3 below:

Table 3. Regression model estimation results

Biến	Hệ số B	Hệ số Beta	Sai số chuẩn của B	Sig.	VIF
F1	0.067	0.036	0.059	0.438	1.386
F2	0.230	0.152	0.061	0.215	1.523
F3	0.362	0.265	0.075	0.000***	1.116
F4	0.385	0.314	0.076	0.000***	2.027
F5	0.165	0.123	0.074	0.046**	1.349
F6	0.257	0.396	0.081	0.023**	1.915
Constant	-1.450		0.344	0.000***	
Sig. of F			0.000		
R ² adjustment			0.627		

Source: Data processing from a survey of 180 students at CTEC, 2024

To ensure the accuracy of the regression model estimation, various tests were conducted to check for violations of the assumptions underlying the linear

Note: **, ***: Significant at the 5 % and 1% level regression model. The results indicate that the Variance Inflation Factor (VIF) values for all independent variables are less than 5, suggesting no multicollinearity issues.

Additionally, the F-statistic for the model is significant at sig. = 0,000, indicating that the regression model is statistically significant at the 1% level. The adjusted R^2 value is 0.627, meaning that 62.7% of the variance in students' satisfaction with training quality is explained by the independent variables in the model.

The estimation results in Table 3 show that out of six variables included in the research model, four variables have a statistically significant impact on students' satisfaction with training quality at CTEC.

Among the six factors included in the model, four showed statistically significant impacts: F3 (Institutional Reputation and Credibility) and F4 (Facilities and

Equipment) are significant at the 1% level, highlighting their critical role in shaping students' satisfaction. F5 (Training Program) and F6 (Support Services) are significant at the 5% level, suggesting that curriculum relevance and student support contribute meaningfully to perceived quality. Conversely, F1 (Lecturer Interaction) and F2 (Administrative Services) are not statistically significant, implying limited influence in the current context. These findings align with previous studies (Parasuraman et al., 1988; Alves & Raposo, 2007) and emphasize the need for strategic improvements in institutional branding, infrastructure, and student-centered services.

The results of the research model can be summarized as follows:

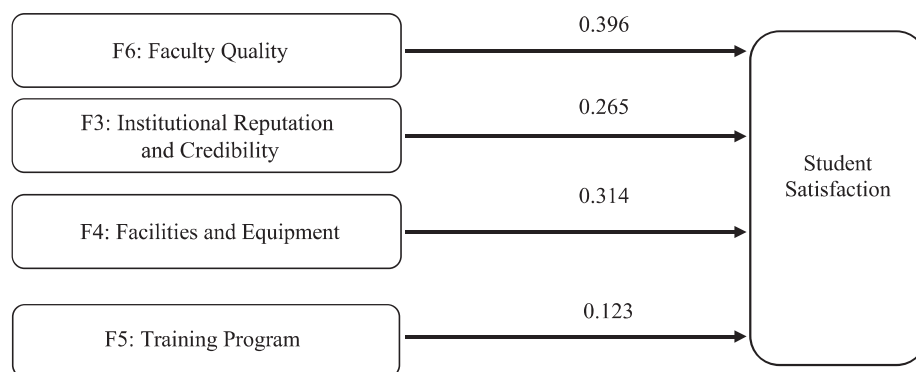


Figure 2. Research model results

Source: Author's compilation, 2024

V. Conclusion

The research findings on factors affecting students' satisfaction with the training quality at CTEC reveal that student satisfaction is influenced by various factors, including facilities, training programs, faculty quality, and the institution's reputation and credibility.

Based on these findings, the college should prioritize updating and adjusting training programs to meet students' increasing demands and the labor market's requirements. To further enhance training quality and student satisfaction,

the college must implement specific and comprehensive strategies, foster close coordination between management and teaching departments, and promptly address student feedback.

These measures will improve training quality and strengthen the college's reputation and competitiveness within the national education system. In summary, student satisfaction is a critical indicator of training quality at the institution. Understanding the factors that influence satisfaction will enable the college to make effective adjustments

and improvements, ensuring sustainable development and better meeting the educational needs of students in the future.

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CÁC NHÂN TỐ ẢNH HƯỞNG ĐẾN SỰ HÀI LÒNG CỦA SINH VIÊN VỀ CHẤT LƯỢNG ĐÀO TẠO TẠI TRƯỜNG CAO ĐẲNG KINH TẾ - KỸ THUẬT CẦN THƠ

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Tóm tắt: Bài viết nhằm phân tích các nhân tố ảnh hưởng đến sự hài lòng của sinh viên về chất lượng đào tạo tại Trường Cao đẳng Kinh tế - Kỹ thuật Cần Thơ. Dữ liệu nghiên cứu được thực hiện từ cuộc khảo sát gồm 180 sinh viên đang học tại trường. Các phương pháp được sử dụng trong nghiên cứu như kiểm định độ tin cậy thang đo bằng hệ số Cronbach's alpha, phân tích nhân tố khám phá và phương pháp hồi quy tuyến tính bội. Kết quả phân tích cho thấy, các nhân tố ảnh hưởng đến sự hài lòng của sinh viên về chất lượng đào tạo của trường, bao gồm: Danh tiếng, uy tín nhà trường, Cơ sở vật chất, Chương trình đào tạo và Chất lượng giảng viên. Trong đó, nhân tố Chất lượng giảng viên có tác động mạnh nhất đến sự hài lòng của sinh viên về chất lượng đào tạo.

Từ khóa: chất lượng, cao đẳng kinh tế, đào tạo, hài lòng, sinh viên

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