The impact of student support service quality based on AUN-QA on student satisfaction and the role of brand image: A study at Tay Do University

Trieu Thai Duong[2*], Nguyen Tuan Kiet[1], Nguyen Xuan Tien[2], Nguyen Thi Kim An[2], Do Dang Trinh[2], Nguyen Van Diep[2], Ho Gia Bao[3]

[1]*UEH University*

[2]*Tay Do University*

[3]*RMIT University*

[*]*Corresponding author: Trieu Thai Duong (email: ttduong@tdu.edu.vn)*

ABSTRACT

This study focuses on evaluating the impact of support service quality on student satisfaction at Tay Do University, while also examining the mediating role of brand image in this relationship. The theoretical framework is grounded in Social Exchange Theory, the Triple Bottom Line model, and the AUN-QA assessment standards (version 4.0). Data were collected from over 800 students majoring in Economics and Business Administration, utilizing the Partial Least Squares Structural Equation Modeling (PLS-SEM) method for analysis. The findings reveal that support service quality has a positive influence on student satisfaction, with brand image serving as a significant mediator that strengthens students' attachment to the university. These results offer practical implications for university administrators and the Faculty of Economics, emphasizing the need to enhance support services and invest in brand development. Such efforts not only improve student satisfaction but also increase the university's competitiveness in student recruitment and elevate the overall quality of education.

1. INTRODUCTION

1.1 Reasons and purposes of conducting the research

Vietnam is facing intense competitive pressure in the context of global integration within the higher education sector. The innovation of the education industry, along with quality stratification and ranking based on societal needs, has driven autonomous universities to race to improve and enhance their

competitive capabilities. With the trend of higher education becoming a rapidly developing service industry (Alwi et al., 2019), institutions are seeking to attract students by improving training programs (CTĐT) in accordance with AUN-QA standards (2020, version 4.0), enhancing the quality of service activities, strengthening brand image (Nguyen Thi My Linh et al., 2023), and intensifying marketing strategies (Alkhawaldeh et al., 2020).

When making decisions about choosing an institution, students often use brand image as a key factor to compare and differentiate among educational establishments (Plungpongpan et al., 2016). Mazzarol (1998) also pointed out that customer choice, including that of students, is strongly influenced by the value that brand image brings. These findings indicate that a brand is not merely a representative symbol for the institution but also a crucial connecting factor between students and the educational establishment, directly impacting the ability to attract, influence selection decisions, and predict student behavior. Therefore, simultaneously focusing on improving the quality of support services, building sustainable brand value, and prioritizing student satisfaction creates a comprehensive development strategy. This is precisely the direction that autonomous universities, prominently Tay Do University, are actively pursuing to adapt and develop within the current competitive and integrated environment.

1.2 Literature review

According to Elliot & Healy (2001), satisfaction is considered a positive emotional state experienced when an individual's needs are met. Student satisfaction (SS) is accepted as a short-term attitude, representing students'

evaluation of their educational experience. Weerasinghe and Fernando (2017), in reviewing all available literature on student satisfaction in higher education, found little change in the definition of this concept.

According to Wiers-Jenssen, Stensaker, and Grogaard (2002), prior to the 1990s, surveys on student satisfaction with their learning experience had not received adequate attention in Europe. However, with the development of higher education, managers began to pay more attention to the student voice and focused on adjustable factors to enhance the quality of educational services. Studies have clearly identified that student satisfaction is primarily influenced by three groups of factors: First, academic quality, including curriculum and faculty competence; second, the social environment within the school; and finally, the system of facilities and equipment supporting learning (Kane, Williams & Cappuccini-Ansfield, 2008). This indicates that improving the student experience cannot be separated from comprehensive efforts to enhance the aforementioned factors.

In the US, a set of tools for assessing student satisfaction – the Noel-Levitz Student Satisfaction Inventory – was developed in 1994 and is currently widely used in the US and Canada (Ruffalo Noel-Levitz, 2019). The current version comprises over 100 questions, including 73 satisfaction-related questions, along with questions about personal information and content customized by the institution. These questions are divided into 12 clusters, focusing on various aspects such as: effectiveness of academic advising, learning support (library, computer labs), campus environment, student life, support programs, teaching effectiveness, admissions and

financial aid effectiveness, registration and billing effectiveness, responsiveness to diverse students, safety and security, excellent service, and student-centeredness.

According to the Noel-Levitz student satisfaction survey system, assessment questions can be categorized into three main groups. First is the academic support group, which includes factors such as the effectiveness of advising and teaching quality. Second is the group related to learning resources, reflected in the quality of support services, in-school support programs, and the effectiveness of admission, financial aid, and registration-billing processes. Finally, there is the student life services group, encompassing the student living environment, the level of attention given to individuals, responsiveness to diverse students, as well as safety, security, overall service quality, and the emphasis on students as the center of all activities. This classification highlights the importance of measuring student satisfaction in a specific and systematic manner, aiming to help universities continuously improve the quality of education and support services, thereby increasingly better meeting the needs and expectations of learners.

Most previous studies typically approached the relationship between educational service quality and brand by assessing brand image (BI) value or analyzing its impact on students through satisfaction indicators (SS) separately. However, consensus on the role and extent of influence of certain variables in this causal chain remains debated. Recently, many works have explored the mediating role of factors such as satisfaction and perceived value of brand reputation (Ali et al., 2021) in linking relationships between service quality and perceived learner outcomes.

Nevertheless, in the context of improving educational quality in Vietnam, the mediating role of brand image (BI) in the relationship between student support services (Criterion 6 according to the AUN-QA model version 4.0) and student satisfaction has not been deeply researched, creating a necessary gap for subsequent studies aimed at enhancing the learner experience.

Unlike previous studies, this research applies Social Exchange Theory (Blau, 1964) to analyze the reciprocal relationship between the quality of student support services (Q3S) and student satisfaction (SS). Based on the principle of "give and take," when educational institutions focus on investing in improving the quality of support services, students will respond with satisfaction and positive evaluations, thereby contributing to strengthening and enhancing the value of the brand image (Nguyen Thi Thuy Giang et al., 2022). Brand image (BI) is not only a tangible element in the brand's assets but is also associated with positive perceptions and associations from customers (Faircloth et al., 2001; Ansary et al., 2018). BI has also been proven to have a positive impact on customer perceptions and their loyalty, in which satisfaction plays a central role (Chinomona, 2016). Therefore, it can be affirmed that BI plays an important mediating role in connecting the quality of support services (Q3S) with student satisfaction (SS), thereby helping to enhance the university's competitiveness and create differentiation in the current context of public evaluation of educational quality. At the same time, this also contributes to building trust in the quality of education from students and relevant social stakeholders who need human resources.

1.3 Problem, objectives, subjects, and scope of research

Research Problem: In this study, the author synthesized and presented foundational theoretical bases, including research related to student support services according to AUN-QA assessment standards for undergraduate programs, along with social exchange theory, brand image theory, and the triple bottom line theory of sustainability. Based on this, the author developed a system of research hypotheses, conducted analysis, presented, and discussed the results obtained from the survey process. Drawing on conclusions from data analysis, the author proposed practical managerial implications to enhance the satisfaction level of students majoring in economics and business administration at Tay Do University.

Objective: The objective of this study is to clarify the positive relationship between improving the quality of student support services (Q3S) and student satisfaction (SS), while also demonstrating that the perception of brand image (BI) plays a mediating role, further contributing to increased student satisfaction. Beyond reinforcing previous conclusions about the importance of brand image, this study also proves that student support service factors, as mentioned in the AUN-QA assessment model for undergraduate programs, are necessary and yield clear practical application value in enhancing the student experience.

Subjects of data collection: The subjects for data collection are final-year students' perceptions currently enrolled in business administration and economics-related programs at Tay Do University.

Research scope: This study aims to clarify the positive causal relationship between enhancing the quality of student support services (Q3S) and student satisfaction (SS), where brand image (BI) acts as a mediating link. To verify this relationship, the study surveyed all final-year students currently studying business administration and economics-related majors at the university. It is expected that the results will not only contribute to refining the theoretical basis related to the educational service sector but also explain why students tend to evaluate positively the student care and support activities that the university has implemented and continues to deploy.

Timeframe: Secondary data on related issues were collected and analyzed by the author from 2018 to 2023.

2. RESEARCH METHODS

2.1 Approach and theoretical basis

According to a UNESCO report (2009), universities often have dedicated student service units aimed at providing comprehensive learning experiences for students through extracurricular programs and life support services. This report suggests that these dedicated student service units in universities perform the following tasks: academic advising (systems providing information on academic progress and degree requirements); learning support centers (offices located on each campus); admissions (application submission, acceptance/rejection notifications, and enrollment instructions); services for non-traditional students (those with children, spouses), needing travel assistance; alumni relations; libraries, bookstores; and information centers. Additionally, various other diverse service activities are provided collaboratively by

units, such as: social activities within the university; student associations and clubs; financial aid; career development; orientation programs for first-year students; counseling (psychological, legal); childcare; school safety and security; food services; sports and and recreation areas, and medical services.

Service is understood as a series of actions performed by a provider to meet the needs of a user, typically not tangible and without transfer of ownership. In some cases, a service may be associated with or entirely separate from a tangible product. According to the ISO 8402 definition, service is the result of an interaction process between a provider and a customer, including internal activities to satisfy user expectations. Furthermore, service also possesses the characteristics of a social activity, occurring through direct communication between the customer and the representative of the service-providing organization.

Service quality reflects not only competence and professional qualifications but also human perception and manner of service delivery. This is a personal and perceptual factor because customers often build expectations based on existing knowledge, experice, or available information, then compare them with actual experiences to form an evaluation. Due to differences in timing, circumstances, and participants in the service provision and consumption process, maintaining stable and consistent quality becomes challenging. Even when the same service is provided, each customer may still have different perceptions, thus creating inconsistency in satisfaction levels. The concept of service quality is multidimensional and is often viewed from the customer's perspective, through

perceived quality. Because services are intangible, difficult to measure, and inseparable from the interaction process, quality is often evaluated by the overall perceived level of service excellence (Zeithaml, 1988). According to Parasuraman et al. (1988), service quality is the overall attitude of customers, formed by comparing what they expect with what they actually receive when experiencing the service.

Parasuraman et al. (1988) developed the SERVQUAL model, one of the most widely used models for measuring service quality. Initially, the model consisted of 10 dimensions, but was later reduced to 5 main dimensions: Tangibles (physical facilities, equipment, staff appearance); Reliability (ability to perform the promised service dependably and accurately); Assurance (knowledge and courtesy of employees and their ability to inspire trust and confidence); Responsiveness (willingness to help customers and provide prompt service); and Empathy (caring, individualized attention the firm provides to its customers). This model helps assess service quality based on customer expectations and actual experiences.

The SERVQUAL model measures service quality by comparing the level of customer perception and expectation, helping to identify areas for improvement. However, Cronin & Taylor (1992) argued that expectations are difficult to define and not all customers set expectations. Therefore, they proposed the SERVPERF model, inheriting SERVQUAL, to study the relationship between service quality, satisfaction, and purchase intention. Research results showed that a scale based solely on actual service outcomes had better explanatory power for service quality.

Student support services, according to the AUN-QA assessment model for undergraduate programs within the ASEAN university quality assurance network, version 4.0 (2020), include: Academic Advising Services; Financial - Capital Services; Sports - Recreation Services; Health Counseling Services; Career - Employment Counseling Services; Housing - Accommodation Services; Counseling - Mentoring Services; International Student Support Services; and other student services.

The Triple Bottom Line (TBL) theory proposes that the sustainable development of universities should be built upon three main pillars: the quality of educational activities, the student experience, and the strength of the brand image. Balancing and investing synchronously in these three areas will help enhance the university's ability to sustain and develop long-term in a competitive educational environment. Particularly, students as the central subjects of all educational activities are the key factor determining the reputation and existence of the educational institution. To improve teaching quality, the university needs to not only focus on curriculum content but also ensure a high-quality faculty, modern learning conditions, and comprehensive support services. Applying technology in teaching, innovating training content, and providing opportunities for students to access real-world environments through internships will help enhance the university's competitiveness. Simultaneously, students are both beneficiaries and a crucial source of feedback on service quality, where satisfaction levels are significantly influenced by support services such as academic advising, career orientation, and extracurricular experiential

activities. Furthermore, the educational brand is a strategic asset, playing an indispensable role in attracting learners and asserting the university's position. A highly regarded brand not only demonstrates the quality of education but also reflects the university's strong commitment to sustainable development and responsibility toward the learning community.

Social Exchange Theory (SET), proposed by Blau (1964), emphasizes non-material forms of exchange, where behaviors are performed not due to obligation or specific rewards, but based on voluntary actions and goodwill between participants. SET provides deep insights into how students perceive the quality of support services provided by the university and the level of trust they have in this learning environment. The interaction between students and the university is not limited to receiving services but also forms a two-way relationship where satisfaction and trust are built through the process of non-profit value exchange. Therefore, this theory serves as a fundamental framework for comprehensively analyzing the mutual influencing factors between learners and the university in the modern educational context.

According to SET, the relationship between students and the university is not merely a one-sided service reception process but also encompasses reciprocal exchange, where students express their satisfaction through their level of attachment and loyalty to the university. When students perceive that they receive dedicated and effective support, they tend to maintain a positive relationship with the university, demonstrated by actively participating in academic and extracurricular activities as well as naturally helping to promote the university's

image. These behaviors not only contribute to enhancing the educational institution's reputation but also create a ripple effect in attracting potential students and building a strong brand. Additionally, SET also indicates that the university plays a proactive role in ensuring fairness and building trust through transparent, public, and responsible service provision. Genuine attention to student needs and voices, along with continuous improvement of learning support services, will help foster a friendly, dynamic, and sustainable academic environment. On this foundation, students not only feel valued but also become active companions in the university's development journey. SET also affirms that trust is built from consistent and positive service experiences, thereby enabling students to continue their engagement, contribute, and become transmitters of the university's brand value within the community.

2.2 Hypothesis analysis framework used in the article

Satisfaction reflects the positive emotion that arises when an individual feels their needs are reasonably met. For students, satisfaction is considered a direct result of their evaluation of the learning process and actual experiences in the educational environment. According to Elliot and Healy (2001), this level of satisfaction is temporary and depends on specific experiences during each stage of learning. In other words, student satisfaction is not a long-term state but a time-dependent response, formed by comparing expectations and the results they receive throughout their learning journey at the university. The UK was the first country in Europe to pay attention to collecting student feedback on university services. Interest in student satisfaction has grown strongly in the UK since the 1990s through annual surveys using the Student Satisfaction Approach (Harvey, Moon & Plimmer, 1997) and has spread to many other countries. Proponents of this approach argue that consistent and cyclical student feedback on their satisfaction is an extremely valuable benchmarking tool.

Scholars in the US also developed a set of tools to survey student satisfaction, called the Noel Levitz Student Satisfaction Inventory, which has been widely used in the US and Canada since 1994 until now. The current version of this survey tool includes over 100 questions, with 73 questions on satisfaction and some questions on personal information and questions that universities design specifically for themselves (Ruffalo, 2019). The satisfaction questions are divided into 12 groups, including: effectiveness of academic advising, related learning support services (library, computer labs, etc.), campus environment, student life, on-campus support programs, attention to individual learner needs, teaching effectiveness, admissions and financial aid effectiveness, registration and payment effectiveness, responsiveness to diverse student groups, safety and security, excellent service areas, and student-centeredness.

Student support services, according to the AUN-QA assessment model for undergraduate programs within the ASEAN university quality assurance network, version 4.0 (2020), include: Academic Advising Services; Financial - Capital Services; Sports - Entertainment Services; Health Counseling Services; Career - Employment Counseling Services; Housing - Accommodation Services; Counseling - Mentoring Services; International Student Support Services; Other

student services... are included in assessing the responsiveness to student needs and satisfaction levels.

This model not only focuses on diversifying types of support services but also requires higher education institutions to pay attention to effectiveness, accessibility, and actual responsiveness to student needs. The quality of support services, therefore, does not merely stop at providing facilities but also plays a role in enhancing the overall learning experience and improving the living environment of students within the university. Factors such as the professionalism and readiness of the support team, the ability to customize services for specific cases, as well as the speed of processing student requests are key indicators in evaluating service quality. Many studies have also confirmed that high-quality support services can increase student engagement with the university, thereby improving student retention rates and contributing to building a positive image for the training institution. When students feel that they are cared for and supported in a timely manner, they will tend to be more satisfied with their learning process, increase their motivation to learn, and maintain long-term engagement. From these arguments, the author proposes hypothesis H1 as follows:

H1: Perception of support service quality positively affects student satisfaction.

Brand Image (BI) reflects the overall impression a customer has of a brand, accumulated through the process of receiving information and actual experiences related to that brand. In other words, BI is the synthesis of an individual's perceptions, associations, and attitudes towards a brand, built from previous interactions as well as awareness of brand-related factors. Therefore, BI is not an instantly formed factor but the result of a continuous process of exposure and evaluation, based on both communication factors and personal consumer experiences. It is a set of beliefs that create a comprehensive picture of the brand (Assael H, 1987) or unique, favorable, and strong brand associations in the minds of customers, stemming from the attributes and benefits the brand offers (Keller, 2010).

A positive brand image has been proven to be related to brand equity (Faircloth et al., 2001), positive associations and evaluations from consumers (Ansary et al., 2018), as well as customer loyalty (Chinomona, 2016). A strong brand helps increase recognition, enhance reputation, create sustainable competitive advantage, and influence customer purchasing decisions. In the higher education environment, brand image plays the role of a valuable intangible asset, not only affecting the perceptions and engagement levels of current students but also creating an advantage in attracting potential students and enhancing the university's position in the education market. A well-positioned brand is often the result of investment in training quality, the effectiveness of student support services, as well as commitments to sustainable development and social responsibility. Therefore, improving the quality of support services not only brings direct benefits to students but also contributes to strengthening the university's positive image in the minds of the public and stakeholders. Based on that, the author proposes hypothesis H2 as follows:

H2: Perceived quality of support services positively affects brand image.

In the context of increasing competition among educational institutions, brand image has become one of the strategic factors contributing to shaping students' perceptions of the overall quality of the university. When students perceive that the university's brand is highly regarded in the community, they tend to feel secure, trust, and proud of their choice. This creates a positive psychological effect, enhancing satisfaction not only with academic services but also with the entire educational experience. Furthermore, the positive relationship between brand image and student satisfaction is also demonstrated by students' willingness to recommend the university to others, continue to engage in post-graduation activities, and become a source of positive image dissemination for the university. Based on these arguments, the study develops the following hypothesis:

H3: Brand image and customer satisfaction have a positive relationship.

In the increasingly fierce competition within higher education, improving the quality of services, especially student support services, becomes an urgent requirement for universities. These services not only meet academic needs but also directly contribute to strengthening the university's brand image in the eyes of both current and potential students. For enrolled students, actual experiences regarding care, support, and training quality are key factors shaping their satisfaction and attachment to the university. Meanwhile, new recruits often evaluate the university's reputation and brand as an assurance of educational quality. When students feel that they are studying in a

professional environment, receiving comprehensive support, and having opportunities for holistic development, they will form a positive and satisfied attitude towards the university, thereby further strengthening its reputation and brand image in the education market.

Additionally, according to Alves and Raposo (2010), building a strong brand image is not merely a communication strategy but also a result of positive experiences that students have, especially through the support services provided by the university. When students perceive that the university focuses on improving service quality, they will develop a high appreciation for the university's brand, while forming a satisfied mindset towards the actual values they are receiving. This indicates that brand image can act as a bridge between service quality and student satisfaction. From this, investing in support services not only enhances management effectiveness but also creates a foundation for building trust, attachment, and positive attitudes of students towards the university. Based on that, the author proposes the following hypothesis:

H4: Brand image plays a mediating role in the relationship between support service quality and student satisfaction.

2.3 Research model

The research model was developed by integrating foundational theories such as the Triple Bottom Line Theory and Social Exchange Theory, along with insights from empirical studies by Drennan et al. (2015), Lee et al. (2024), Lin et al. (2017), and Zhang (2024). These works have significantly contributed to clarifying the relationship between support service quality, brand image, and student

satisfaction in the context of higher education. Specifically, Drennan et al. (2015) focused on the role of learning experience in shaping brand perception; Kataria and Lee elucidated the impact of services on student satisfaction and engagement, while Lin and Zhang provided deep insights into the factors forming and influencing the educational brand image. By synthesizing these theoretical frameworks and empirical evidence, the research model was designed to explore the mediating function of brand image in the relationship between support service quality and student satisfaction, thereby further clarifying the mechanism of impact in the modern higher education environment. (Figure 1).
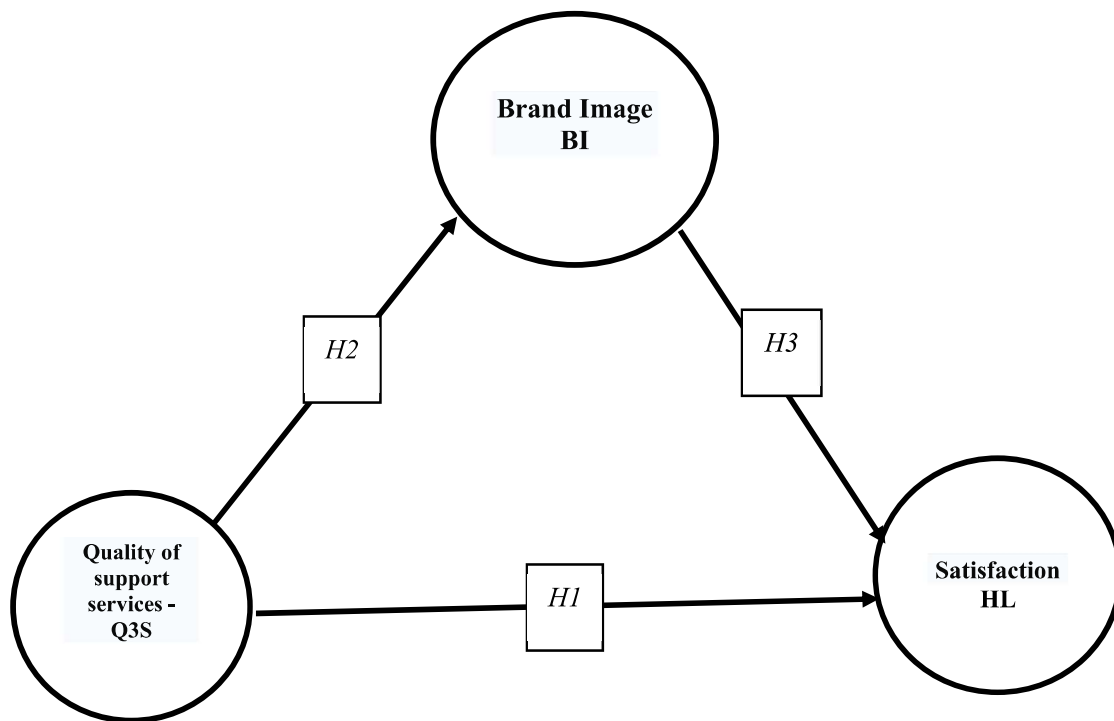

Figure 1. Proposed research model

Source: Author's proposal

2.4 Research data

The data for this study were collected through an online survey, conducted over two months, from March to April 2023. All final-year students at the university were invited to participate in the survey on a voluntary basis, with a commitment to anonymity and encouragement through additional training points. Out of a total of 1,300 students approached, 875 responses were eligible, representing a response rate of 67.30%. After a review process, incomplete surveys or those from students outside the Economics faculty were excluded to ensure data accuracy and reliability. According to recommendations from Giao and Vuong (2019), a sample size exceeding 100 meets the criteria for PLS-SEM analysis. Within the scope of this study, 220 students from Economics and Business Administration majors completed the survey, accounting for over 90% of the total eligible sample, thus confirming the reliability of the dataset. Specific information regarding the student structure by major is presented in Table 1 below:

Table 1. Surveyed economics students' information at Tay Do University

No.	Business Administration	International Business	Economics	Marketing
Number of final year students	131	14	54	21
Proportion (%)	59.54	6.36	24.55	9.55

Source: The research team's compilation

2.5 Specific research methods

In this study, the authors inherited and adapted measurement tools from previous research to evaluate three main concepts: quality of support services (Q3S), brand image (BI), and satisfaction (HL). Specifically, the Q3S scale was developed based on an improved version of Parasuraman et al. (1988) model, with five core components: (1) Tangible elements such as facilities, teaching equipment, and staff uniforms; (2) Reliability through accurate and committed service delivery; (3) Service capability, demonstrated by professional qualifications, service attitude, and ability to build trust; (4) Responsiveness – proactively assisting and meeting student expectations; (5) Empathy, meaning the level of care and personalization in student support. Meanwhile, brand image and satisfaction were assessed using established standard scales. All survey items used a 5-point Likert scale, ranging from "Completely disagree" to "Completely agree." To ensure linguistic accuracy and cultural appropriateness, the translation process between English and Vietnamese was conducted in multiple rounds and thoroughly verified using the method of Giao and Vuong (2019). Additionally, the author group adjusted and supplemented measurement indicators closely aligned with the practical reality of university undergraduate quality accreditation, based on the AUN-QA version 4.0 assessment framework, with expert consultation and through in-depth focus group discussions.

This study chose to analyze data using Partial Least Squares Structural Equation Modeling (PLS-SEM), conducted in two main steps: first, evaluating the reliability and validity of the measurement model, then analyzing the relationships within the structural model. The PLS-SEM method is considered a suitable solution when dealing with complex theoretical models or those lacking a strong theoretical foundation (Giao and Vuong, 2020). One of the notable advantages of PLS-SEM is its ability to work effectively with non-normally distributed data, limited sample sizes, and support reflective scales. Thanks to its ability to simultaneously evaluate multiple relationships between observed and latent variables, this method offers high accuracy in testing hypothetical models. Therefore, PLS-SEM is increasingly favored in research in management, education, and social sciences (Giao et al., 2020). Within the framework of this study, SmartPLS version 4.1 software was used to ensure objectivity in data

processing and optimize analytical results for greater accuracy and scientific rigor.

3. RESULTS AND DISCUSSION

3.1 Current status of training at Tay Do University

Tay Do University was established under Decision No. 54/2006/QD.TTg dated March 9, 2006, by the Prime Minister. As the first non-public university in the Mekong Delta region, it is a multi-level, multi-system, and multi-disciplinary training institution, tasked by the Ministry of Education and Training to provide training in several key specialized fields of the Region according to economic transition requirements and socially demanded industries. This has partly met the goal of training high-quality human resources for the Mekong Delta region in general and Can Tho city in particular; contributing to the industrialization and modernization of the country and the local socio-economic development. After more than 18 years of establishment and development, Tay Do University has achieved significant accomplishments.

Currently, Tay Do University boasts a large-scale organizational system with eleven specialized faculties, one department, along with support units such as four Centers, four Boards, eight Functional Offices, a Library, and Party, Youth Union, and Association organizations. With its current resources, the university is offering 28 undergraduate programs, six master's programs, and one doctoral program. To date, over 31,538 undergraduate students and 1,278

master's students have graduated after 15 training cohorts. Besides teaching activities, the university also serves as a center for scientific research and technology transfer, actively contributing to the socio-economic development of the Mekong Delta region. In terms of quality assurance, the university achieved its second institutional accreditation in 2022 and has completed accreditation for twelve training programs, including two pioneering master's programs in the region and nationwide. Additionally, the university actively implements research projects and technology transfer to address practical scientific, economic, cultural, and social issues in Can Tho City as well as neighboring provinces in the region. With support from the Ministry of Education and Training and local authorities, the university has promoted international cooperation in science and technology, aiming to join the AUN quality accreditation organization by 2025.

However, at the time of conducting the study, the team had completed the process of secondary data analysis related to student support service activities over a 5-year period, from the 2018 to 2023 academic years. The analysis results showed that the quality of these services had signs of decline over the years. To specifically illustrate this trend, the research team selected the entire student body from the economics and business administration fields as a representative sample, and detailed figures are summarized in Table 2.

Table 2. Current status of Business Administration student training

Business Administration students					
Ratio	**2018**	**2019**	**2020**	**2021**	**2022**

Enrollment/Target	203/100	212/300	212/240	260/238	150/280
Graduates (Field of Study)	521/725	436/607	426/642	-	248/442
Employed (Field of Study) (%)	79.00	90.60	93.50	95.59	77.19
Quality of support services (%)	90.40	89.00	85.00	81.00	80.00

Source: Statistics from the school's survey from 2018-2023

Table 2 shows the necessary need for some improvements in care and specific support service strategies to attract and retain students in general and economics students at the university in particular.

3.2 Analysis results and discussion

After five iterations of adjusting the measurement model, the research team decided to remove some observation variables that did not meet the standards to ensure compliance with the defined research conditions. From there, the measurement model was finalized with guaranteed reliability and validity (see Figure 2).
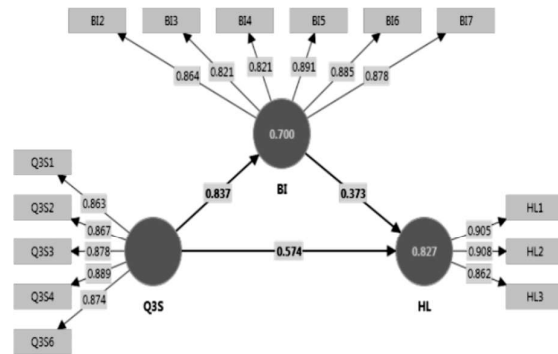

Figure 2. Measurement model

Source: Proposed by the authors

To test the reliability of the measurement variables, the team used Cronbach's Alpha (CA) and Composite Reliability (CR). According to the recommendations of Giao and Vuong (2019), CA and CR indices of 0.70 or higher are considered acceptable. The results presented in Table 3 show that all variables exceed this threshold, demonstrating a high level of reliability for the scale.

Table 3. Validity and reliability of the measurement scale

	Cronbach's alpha (CA)	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
BI	0.93	0.931	0.945	0.74
HL	0.871	0.871	0.921	0.795
Q3S	0.923	0.923	0.942	0.764

Source: Author's calculation

In terms of validity, the model was tested using two criteria: convergent validity and discriminant validity. According to Giao and Vuong (2019), to ensure convergent validity, the outer loadings of the measurement indicators need to be greater than 0.50 and the AVE value must exceed this minimum threshold. The model results (Figure 2) show that the outer loadings range from 0.821 to 0.908, while the AVE ranges from 0.740 to 0.795 (Table 3). Thus, the model

has met the requirements for convergent validity according to the standard.

In addition to ensuring convergent validity, the model also needs to achieve discriminant validity – meaning the ability to clearly distinguish between conceptual constructs. When the square root of the average variance extracted (AVE) exceeds the correlation coefficient between pairs of variables, it indicates that discriminant validity has been established. Besides, Table 4 presents the highest HTMT index of 0.999, which is still within the permissible threshold as it has not reached 1, indicating that the model is not violated in terms of discriminant validity between constructs.

Table 4. HTMT criterion – matrix

	BI	HL
HL	0.947	
Q3S	0.902	0.988

Source: Author's calculation

To control for the possibility of multicollinearity – a situation where independent variables are excessively correlated with each other – the research team examined the Variance Inflation Factor (VIF). Based on the threshold recommended by Giao and Vuong (2019), a VIF index exceeding 5 indicates a risk of multicollinearity. In this study, the highest VIF value was 3.335, which is lower than the warning level; thus, it can be concluded that the model does not suffer from severe multicollinearity.

Table 5. VIF criterion – matrix

	BI	HL
BI		3.335
Q3S	1.0	3.335

Source: Author's calculation

From the structural analysis model and PLS-SEM analysis results presented in Figure 3 and
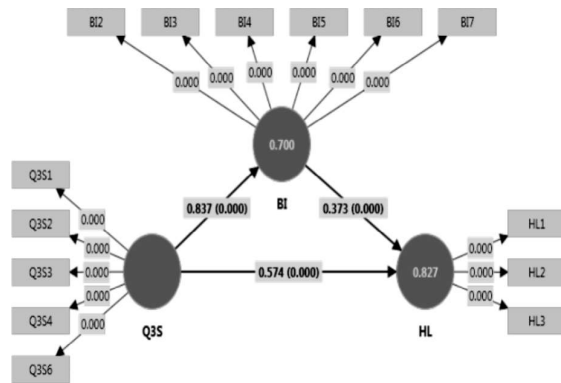

Figure 3. Structural analysis model

Source: Calculated by the authors

The data analysis results confirm that the quality of support services (Q3S) has a positive and statistically significant relationship with both brand image (BI) and student satisfaction (HL). This is demonstrated by the regression coefficients, which are all positive and have p-values less than 0.000 – evidence of high reliability in the conclusion. Accordingly, the three hypotheses H1, H2, and H3 are all accepted as shown in Table 6.

Table 6. Hypothesis testing

Hypothesis	Relationship	Regression Coefficient	Standard Deviation (β)	P values	Conclusion
H1	Q3S → HL	0.57	0.05	<0.05	Accepted
H2	Q3S → BI	0.84	0.02	<0.05	Accepted
H3	BI → HL	0.37	0.05	<0.05	Accepted

Source: Calculated by the research team

Furthermore, statistical data show that brand image (BI) plays a bridging role in the relationship between perceived quality of support services (Q3S) and satisfaction (HL). Specifically, the direct relationship between Q3S and HL has a coefficient β = 0.57 with a p-value = 0.000, proving that the impact is significant.

Besides, the indirect impact through BI has a coefficient β = 0.37 and also achieves similar statistical reliability. Since both direct and indirect impacts exist and are significant, it can be affirmed that brand image plays a partial mediating role – as recommended by Vuong and Giao (2020).

Table 7. Evaluation of BI's mediating role

Hypothesis	Relationship	Direct Effect	Indirect Effect	Total Effect	Type of Mediator	Conclusion
H4	Q3S → BI → HL	0.57	0.37	0.94	Partial Mediator	Accepted

Source: Compiled by the research team

From the above analysis, it can be affirmed that brand image (BI) has proven its role as an important mediating factor in the relationship between support service quality and student satisfaction, with a total influence level reaching 0.94.

An important criterion for evaluating the predictive ability of the model is the coefficient of determination R^2, which reflects the extent to which the dependent variable can be explained by the independent variables in the PLS model. According to Giao and Vuong (2019), the larger the R^2 value, the higher and more reliable the model's predictive power. The analysis results show that the satisfaction (HL) variable achieved an R^2 value of 0.827, meaning that 82.7% of the

variation in HL can be explained by the impact of support service quality (Q3S) and brand image (BI). At the same time, the R^2 coefficient of BI is 0.700, indicating that 70% of the change in brand image is explained by Q3S. This demonstrates that the model has good predictive capability, clearly shown by the relatively high proportion of explained variance in the main constructs (Figure 3).

Furthermore, according to Wetzels et al. (2009), the level of influence of R^2 is classified as follows: greater than 0.26 (high influence), greater than 0.13 but less than 0.26 (medium influence), and less than 0.02 (low influence). Therefore, the R^2 values for HL and BI both

exceed 0.26, so the research model is determined to be appropriate.

4. CONCLUSION

The research findings confirm that the university's brand image plays a crucial mediating role in the relationship between the quality of support services and student satisfaction. This role is empirically validated and aligns with Blau's (1964) Social Exchange Theory, which emphasizes the principle of reciprocity—students tend to express satisfaction and loyalty when they receive high-quality support services from the university. The survey results indicate that several aspects of support services require improvement, particularly in facilities, tuition and scholarship counseling, academic advising competence, and student life services such as dormitories, healthcare, and psychological counseling. Academically, the study applies Standard 6 of the AUN-QA version 4.0 criteria to assess the quality of student support services, thereby reaffirming the positive mediating effect of brand image within the higher education environment. The hypotheses were tested in the context of universities striving for comprehensive innovation to enhance both quality and competitiveness. Overall, the study provides reliable empirical evidence and offers strategic implications for brand management, aiming to improve service quality as well as attract and retain students more effectively. The research provides several managerial implications aimed at improving student support services and strengthening the university's brand image. To ensure effective implementation, the university should design specific, stage-based investment plans focusing on the five dimensions of service quality. First, regarding tangible facilities, the university should invest in playgrounds, laboratories, and practical training spaces to enhance recreation, cultural, and research activities. For reliability, it is necessary to ensure that all consulting and service commitments are delivered accurately and transparently. In terms of service capability, the university should recruit qualified lecturers, conduct professional development programs, and improve staff responsiveness and problem-solving skills. Concerning responsiveness, staff must be available to support students in medical, psychological, and living-related issues. Finally, empathy should be strengthened through personalized services tailored to different student groups. These actions will help the university align strategic goals, optimize resources, and better meet learners' needs while contributing to the supply of high-quality human resources. Empirical findings show that student support service quality affects satisfaction both directly and indirectly through a positive brand image. The synergy between these elements significantly enhances satisfaction, especially among economics students who value practicality and career opportunities. Therefore, the university should utilize multiple communication channels to promote support services and organize experiential programs with businesses or professional clubs to strengthen student engagement. Regarding brand development, investments should prioritize modern infrastructure and distinctive visual identity elements. Recruiting and retaining reputable lecturers will reinforce academic reputation, while expanding "Learning by Doing – Practicing by Doing" activities and student startup programs will foster employability and innovation.

Collectively, these initiatives contribute to improving student satisfaction, social trust, competitiveness, and brand recognition in a dynamic higher education landscape. Furthermore, the university and its affiliated units such as the Faculty of Business Administration and Graduate School should emphasize value-added services, practical learning, and a vibrant entrepreneurial ecosystem. Diversifying promotional methods in student recruitment will enhance visibility and affirm the university's regional and national position. Although the study yields valuable insights, it still has limitations. Future research should expand the sample beyond Tay Do University to include public and autonomous universities for broader generalization. Moreover, further studies should examine moderating effects of other contextual factors and analyze differences across academic disciplines, offering a more nuanced understanding of how service quality and satisfaction vary by field of study.

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