

Research on Student Satisfaction with the Physical Facilities and Service Staff of Dai Nam University, Vietnam

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Date of Submission: 25-01-2024

Date of Acceptance: 03-02-2024

ABSTRACT

This study aimed to assess student satisfaction with the physical facilities and service quality of Dai Nam University. The research sample included 200 students from four different departments within the economic sector, including Business Administration, Communications, Logistics and Supply Chain Management, and E-Commerce and Economics. The results showed variations in student satisfaction related to physical facilities and services, with dissatisfaction noted in certain aspects such as elevators, soccer fields, and Wi-Fi quality. On the other hand, parking facilities, auditoriums, and fire safety equipment received high ratings. The study also found no significant differences in satisfaction among student groups based on gender, course year, and department, except for a notable difference between students residing in and out of dormitories. Based on these findings, the study recommends specific improvements in the quality of physical facilities and services, and reaffirms the importance of enhancing student experiences in a university environment.

Key: Student Satisfaction, Physical Facilities, Service Staff, Students.

I. INTRODUCTION

In the context of modern higher education, evaluating and ensuring student satisfaction with physical facilities and service quality is becoming increasingly crucial. Shirokova and colleagues (2017) have pointed out that physical facilities are not only a fundamental support for the teaching and learning process but also significantly contribute to the overall living and learning experience of students. If not managed and improved effectively, deficiencies in physical facilities can pose significant limitations to the development and experience of students, thereby diminishing the overall quality of education. Additionally, the role of the service staff in universities is equally

important. As Leephaijaroen (2016) noted, service staff plays a role not only in maintaining the daily operations of the school but also in enhancing the academic environment. Student satisfaction with this service directly reflects on the professionalism and effectiveness of the institution in the eyes of students and the community.

However, assessing student satisfaction goes beyond collecting regular feedback. Oliver (2014) emphasized that satisfaction should be considered as a "general emotional response" after experiencing a situation or using a product or service. This requires a comprehensive and detailed approach, not only determining the current level of satisfaction but also understanding the factors influencing this satisfaction. This becomes particularly important in shaping policies and initiatives aimed at improving the quality of services and facilities in higher education institutions.

II. BIBLIOGRAPHY

2.1. University Facilities

The term "university facilities" encompasses various constituent factors, from lecture halls, libraries, and laboratories to infrastructure such as dormitories, sports fields, and recreational areas. These resources not only support the teaching and learning processes but also contribute significantly to enhancing the living and learning experiences of students in the university environment (Shirokova et al., 2017). Furthermore, university facilities include information and communication technology systems, ensuring connectivity and access to information anytime, anywhere, especially crucial in the current digital era (Wilson & Jeffreys, 2013).

Evaluation criteria for university facilities often include modernity, safety, amenities, and sustainability. Modernity is not only reflected in the adoption of the latest technology and equipment but also in the design of flexible and user-friendly

spaces. Safety and amenities ensure a comfortable and secure learning environment for students and faculty. Sustainability in facilities is increasingly emphasized, aiming to minimize environmental impact and optimize resource utilization (Shirokova et al., 2017).

2.2. University Service Staff

University service staff comprise individuals working in non-teaching positions but still contributing to the institution's operations, from management, student support, library, IT, to maintenance and facility services (Leephajaroen, 2016). These staff members are integral in maintaining and improving the academic environment, ensuring the smooth and efficient daily operations of the university (Shirokova et al., 2017).

Evaluation criteria for service staff often include productivity, service quality, student and faculty satisfaction, as well as the ability to quickly and effectively respond to arising requests and issues. Additionally, adaptability and innovation in work, as well as participation in developmental initiatives, are crucial factors in assessing staff effectiveness. The role of service staff in the university is paramount, not only directly supporting the learning and research processes but also contributing to creating a positive academic environment and fostering the sustainable development of the institution. The professionalism and effectiveness of the service staff significantly influence the reputation and image of the university in the eyes of the community and stakeholders (Bossu et al., 2018).

2.3. Student Satisfaction with Facilities and Service Quality

Satisfaction, in psychological terms, is often understood as a positive emotional state where an individual feels content with certain aspects of their life or experiences. Oliver (2014) describes satisfaction as a "general emotional response" that an individual perceives after going through a situation or using a product or service. This reflects not only immediate gratification but also a long-term evaluation of how well the experience or product meets or exceeds

expectations. Satisfaction is not only crucial in assessing the quality of individual life but also a key factor in determining customer loyalty and subsequent purchasing behavior (Kotler & Keller, 2016).

In the context of higher education, student satisfaction with facilities and service quality becomes highly significant. It goes beyond students feeling content with what they receive; it reflects the level of service they expect from the educational institution. In the study by Brown and Green (2018), they pointed out that student satisfaction with facilities such as libraries, classrooms, laboratories, and common recreational areas significantly impacts student engagement and academic motivation. Furthermore, service quality also has a crucial influence on student satisfaction and motivation for learning (Taylor & Todd, 2020). Higher education institutions that understand and invest in these factors often see positive outcomes in student retention and improved graduation rates.

III. RESEARCH METHODS

3.1. Data Collection

The author conducted primary data collection through a survey using a questionnaire.

Survey Subjects: The author selected 4 departments within the economic sector for the survey, including the School of Business Administration, the School of Communications, the School of Logistics and Supply Chain Management, and the School of E-Commerce and Digital Economics.

Sample Size: The sample size was determined based on the studies by Bollen (1998) and Hair et al. (2006), meaning a measurement variable should have a minimum of 5 respondents. Therefore, the required number of respondents for accuracy is ($n \geq k^5$). In this study, the author constructed a questionnaire with a total of 27 measurement items, so the minimum sample size needed for the survey is $27^5=135$ observations. Thus, the author decided to select 250 students, with a valid response from 200 students.

The author sent the questionnaire via email to the general mailbox of the classes, and a total of 200 students responded, ranging from academic years 13 to 16.

The Likert scale with 5 levels was used in the survey questionnaire:

No.	Satisfaction Level	Explanation of Satisfaction Level
1	Strongly Disagree	Your satisfaction level is less than 30%
2	Disagree	Your satisfaction level is less than 50%
3	Neutral	It is difficult for you to determine the level of satisfaction; or the survey content does not apply to you
4	Agree	Your satisfaction level is below 80%
5	Strongly Agree	Your satisfaction level reaches over 80%

3.2. Data Processing and Analysis

Descriptive Statistics: This method is used to analyze data from the survey, providing an overview of student satisfaction. Specifically, the analysis will focus on determining the percentage, mean, and standard deviation of responses, allowing for an assessment of overall satisfaction levels and the identification of trends and patterns in students' perspectives on the university's facilities and service quality.

Measurement Scale Reliability Analysis: This is employed to assess the stability and consistency of the measurement scale. The scale is considered reliable if the Cronbach's Alpha coefficient is > 0.6 , and the correlation coefficient with the overall variable is greater than 0.3 (Hair et al., 2006).

Testing for Differences: In this study, the Independent Samples T-test is utilized to determine

differences between two independent groups, based on the results of the Levene test for homogeneity of variances and the Sig value; a Sig value below 0.05 indicates statistically significant differences. The ANOVA test is applied to compare the means of multiple groups, with the null hypothesis of no difference being rejected if Sig is less than or equal to 0.05, indicating significant differences between categorized groups.

IV. RESEARCH RESULTS AND DISCUSSION

4.1. Descriptive Statistics of the Research Sample

The author conducted a survey of 200 students at the university, with 200 valid responses. The valid responses were coded and entered into SPSS 26.0 software.

Table 1. Research Sample Structure

Criteria		Number	Rate (%)
Sex	Male	80	40
	Female	120	60
Academic year	Batch 13	42	21
	Batch 14	50	25
	Batch 15	48	24
	Batch 16	60	30
Dormitory	Yes	31	15,5
	No	169	84,5
Faculty	Administration Management	76	38
	Communication	55	27,5
	Logistics and Supply chain management	37	18,5
	E-commerce and Digital Economy	32	16

Source: Compiled from survey results, 2023

4.2. Analysis of Sample Structure:

The analysis of the sample structure reveals an asymmetrical distribution between genders, with 120 female students accounting for 60% and 80 male students making up 40%. Students belong to various academic years, where the 16th academic year has the highest proportion at 30% (60 students), followed by the 14th year with 25% (50 students), the 15th year with 24% (48

students), and the 13th year with 21% (42 students). Only a small fraction of students, 15.5% (31 students), reside in dormitories, while the majority, 84.5% (169 students), do not. Regarding distribution by department, the School of Business Administration has the largest number of students at 38% (76 students), followed by the School of Communications at 27.5% (55 students), the School of Logistics and Supply Chain Management

at 18.5% (37 students), and the School of E-Commerce and Digital Economics at 16% (32 students). These figures provide an overview of the structure and characteristics of the research sample used in the survey.

The reliability of the measurement scales for Facilities (CSVC), Service Staff (DNPV), and Overall Satisfaction (SHL) is assessed using the Cronbach's Alpha reliability coefficient. The results of the Cronbach's alpha reliability analysis are presented in Table 2 as follows:

4.3. Measurement Scale Reliability Analysis:

Table 2. Reliability of the Measurement Scales

Measurement variable	Average of the scale if the variable is removed	Scale variance if the variable is removed	Total variable correlation	Alpha if this variable is removed
Cronbach'sAlpha(CSVC) = 0,898				
CSVC1	64,00	78,333	,537	,893
CSVC2	64,17	76,486	,682	,887
CSVC3	64,11	76,893	,648	,889
CSVC4	64,20	76,444	,670	,888
CSVC5	64,11	76,863	,650	,889
CSVC6	64,19	77,122	,633	,889
CSVC7	64,18	75,866	,677	,887
CSVC8	64,07	77,833	,637	,889
CSVC9	63,78	80,261	,541	,893
CSVC10	63,90	78,895	,599	,891
CSVC11	64,03	75,635	,644	,889
CSVC12	64,07	77,122	,574	,891
CSVC13	63,51	83,130	,430	,898
CSVC14	63,42	83,285	,514	,899
CSVC15	63,53	81,695	,409	,896
CSVC16	63,50	81,352	,426	,896
CSVC17	63,55	82,461	,441	,899
Cronbach'sAlpha(DNPV) = 0,790				
DNPV1	21,07	8,407	,490	,771
DNPV2	21,05	8,526	,516	,765
DNPV3	20,98	8,165	,524	,763
DNPV4	20,86	7,900	,587	,747
DNPV5	20,81	8,145	,592	,747
DNPV6	20,97	8,396	,544	,758
Cronbach'sAlpha(SHL) = 0,844				
SHL1	11,43	6,035	,515	,866
SHL2	11,73	5,002	,674	,805
SHL3	11,55	4,712	,775	,757

Source: Extracted from SPSS 26.0

The results of the Cronbach's Alpha analysis in Table 3.4 indicate:

The Cronbach's Alpha coefficient for all factor groups is greater than 0.6, meeting the requirements.

All observed variables have correlation coefficients with the total variable greater than 0.3.

Thus, the reliability analysis step for the 27 measurement scales in the study is evaluated as sufficiently reliable.

4.4. Analysis of Student Satisfaction with Facilities and Service Staff

Student Satisfaction with Facilities (CSVC)

Table 3. Student Satisfaction with Facilities (CSVC) at Dai Nam University

Encoding	Measurement Content	Mean	Standard Deviation
CSVC1	Spacious campus entrance, greenery, ample seating	3.89	0.961
CSVC2	Student parking area with full shade, modern ticketing system	4.22	0.925
CSVC3	Student bike area meets the needs of a large number of students	4.28	0.934
CSVC4	Elevator system in lecture halls meets student needs	3.69	0.943
CSVC5	Number of soccer fields meets sports and extracurricular needs	3.69	0.934
CSVC6	Dormitory rooms equipped with full amenities (beds, hot water, air conditioning, ceiling fan, etc.)	3.7	0.934
CSVC7	Number of dormitory rooms meets the needs of the majority of students	3.61	0.98
CSVC8	Cafeteria (rationally arranged, time-saving for students, diverse items, neat and clean, affordable prices)	3.82	0.873
CSVC9	Lecture hall auditoriums equipped with complete facilities (seating, sound, lighting, projector, air conditioning, etc.)	4.21	0.775
CSVC10	Conveniently located and accessible vending machines	3.99	0.827
CSVC11	Computer lab system meets the learning needs of students	3.66	1.042
CSVC12	Wifi network system within the university equipped with full and good-quality coverage	3.53	1.013
CSVC13	Security camera system widely installed to ensure student safety	4.38	0.774
CSVC14	Adequate fire safety equipment on campus	4.48	0.783
CSVC15	Spacious, modern, and clean library equipped with all necessary devices and seating	4.37	0.816
CSVC16	Sufficient and regularly updated study materials (books, newspapers, documents)	4.39	0.826
CSVC17	Clean, modern restroom facilities meeting student needs	4.15	0.843

Source: Compiled from survey results, 2023

Data analysis from Table 3 reveals dissatisfaction among students with certain facilities (CSVC) at Dai Nam University. Specifically, factors such as the campus entrance and grounds (CSVC1) with an average of 3.89 and a standard deviation of 0.961, Elevator system (CSVC4) with an average of 3.69 and a standard deviation of 0.943, Number of soccer fields (CSVC5), and Dormitory rooms (CSVC6) both

with an average of 3.69 and a standard deviation approximately 0.934, and Number of dormitory rooms (CSVC7) with the lowest average of 3.61 and the highest standard deviation of 0.98, all reflect relatively low satisfaction compared to other criteria. Additionally, Canteen (CSVC8) and Computer lab system (CSVC11) also scored below 4 (3.82 and 3.66, respectively) with standard deviations of 0.873 and 1.042, indicating variation

in student evaluations. Especially, Wifi network system (CSVC12) has the lowest average in this group at 3.53, along with a standard deviation of 1.013, showing clear inconsistency in students' views on Wifi quality.

On the other hand, the remaining indicators such as Student parking area (CSVC2), Auditorium (CSVC9), Vending machines (CSVC10), Security camera system (CSVC13), Fire safety equipment (CSVC14), Library (CSVC15), Books and study materials (CSVC16), and Restroom facilities (CSVC17) have average scores ranging from 4.15 to 4.48, reflecting a fairly high level of satisfaction from students. However, the standard deviations for these indicators are relatively high, ranging from 0.775 to 0.843, indicating that while overall students are satisfied, there is still variability in their perceptions of these criteria. This may signal that while many students feel satisfied, some others still have unmet expectations.

Analysis of Table 4 shows no significant difference in satisfaction levels between male and

female students, with averages of 3.9653 and 4.0108, respectively, and a Sig. value of 0.569. This indicates that both groups have similar perceptions of the university's facilities. Similarly, when analyzed by course and faculty, the Sig. values of 0.453 and 0.642 also do not imply statistically significant differences, with satisfaction levels fluctuating slightly but not significantly between groups. However, an important exception is noted for students in dormitories, where the satisfaction level averages 4.1290 compared to 3.9675 for non-dormitory students, with a Sig. value of 0.035, indicating a statistically significant difference. This may reflect that dormitory students perceive facilities more positively, possibly due to convenience or better service accessibility. This information provides an essential insight for administrators to identify different groups of students with diverse needs and expectations regarding facilities, especially between dormitory and non-dormitory students, helping them adjust or improve facility services more effectively.

Table 4. Testing the difference in satisfaction levels of students with CSVC at Dai Nam University among different student groups

Criteria		Number	Average	Sig.	Conclusion
Sex	Male	80	3,9653	0,569	Không có sự khác biệt
	Female	120	4,0108		
Academic year	Batch 13	31	4,1290	0,035	Có sự khác biệt
	Batch 14	169	3,9675		
	Batch 15	42	4,0165	0,453	Không có sự khác biệt
	Batch 16	50	4,0024		
Dormitory	Yes	48	4,0723	0,453	Không có sự khác biệt
	No	60	3,9039		
Faculty	Administration Management	76	3,9396	0,642	Không có sự khác biệt
	Communication	55	3,9880		
	Logistics and Supply chain management	37	4,0334		
	E-commerce and Digital Economy	32	4,0790		

Source: Extracted from SPSS 26.0

Student Satisfaction with Service Staff (DNPV)

Table 5 reflects the level of student satisfaction with the service staff at Dai Nam University, highlighting some clear differences in student evaluations. Employees from departments and functional offices (DNPV1) have an average satisfaction level of 3.88, with a high standard deviation of 1.12, indicating inconsistency in students' perceptions of the dedication and ability

to handle tasks quickly by the staff. Similarly, sanitation staff (DNPV2) and technical staff (DNPV3) also received lower ratings with averages of 3.78 and 3.77, accompanied by standard deviations of 0.763 and 1.045, reflecting a relatively low satisfaction level and variability in students' views on these services.

On the contrary, other dimensions such as healthcare staff (DNPV4) and security staff

(DNPV5) are highly rated with averages of 4.28 and 4.54, along with standard deviations of 0.847 and 0.785. This indicates that students are very satisfied with the dedication and expertise of healthcare staff as well as the sense of security provided by the security team. The team of student clubs and organizations (DNPV6) also receives positive evaluations with an average of 4.48 and a

standard deviation of 0.768, indicating that students are satisfied with the activities they organize. However, the relatively high standard deviations in all dimensions still indicate variability in student evaluations, which needs to be noted by administrators to improve service quality and achieve broader satisfaction across all areas.

Table 5. Student Satisfaction with Service Staff (DNPV) at Dai Nam University

Encoding	Measurement Content	Average	Standard Deviation
DNPV1	Dedicated and prompt staff in departments and functional offices (Student Affairs, Accounting, Training, etc.)	3.88	1.12
DNPV2	Sanitation staff consistently maintains cleanliness, with a friendly and pleasant attitude	3.78	0.763
DNPV3	Experienced technical staff provides good and timely service	3.77	1.045
DNPV4	Healthcare staff is dedicated and highly experienced	4.28	0.847
DNPV5	Security and protection staff	4.54	0.785
DNPV6	Student organizations and clubs support services for university events	4.48	0.768

Source: Extracted from SPSS 26.0

Table 6. Differential Examination of Student Satisfaction with Service Team (DNPV) at Dai Nam University among Different Student Groups

Criteria	Number	Average	Sig.	Conclusion
Sex	Male	80	0,980	No significance
	Female	120		
Dormitory	Yes	31	0,751	No significance
	No	169		
Academic year	Batch 13	42	0,453	No significance
	Batch 14	50		
	Batch 15	48		
	Batch 16	60		
Faculty	Administration Management	76	0,330	No significance
	Communication	55		
	Logistics and Supply chain management	37		
	E-commerce and Digital Economy	32		

Source: Extracted from SPSS 26.0

The results from Table 6 indicate that there is no significant difference in student satisfaction with the service team (DNPV) at Dai Nam University among different student groups

based on gender, residency, batch, or faculty. Specifically, gender does not create a significant difference in satisfaction with the service team, with male students scoring an average of 4.1896

compared to 4.1917 for female students, and a Sig. value of 0.980, affirming no significant difference. Students residing in dormitories and those not residing in dormitories show similar satisfaction levels with average scores of 4.1613 and 4.1963, respectively, along with a Sig. value of 0.751. When examined by batch, although there is a slight variation in scores ranging from 4.1389 to 4.3472, the Sig. value of 0.453 indicates no statistically significant difference between the batches. Lastly, comparing across faculties, despite scores fluctuating from 4.1118 to 4.2883, a Sig. value of 0.330 suggests no significant difference between faculties regarding satisfaction with the service team.

Overall Student Satisfaction (SHL)

Table 7 provides a comprehensive overview of student satisfaction with the facilities and service team at Dai Nam University. The overall satisfaction with facilities (SHL1) is rated high with an average score of 3.99, reflecting

relatively consistent satisfaction among students. However, satisfaction with the service team (SHL2) has a lower score, reaching an average of 3.69 with a standard deviation of 0.948. This indicates a greater variation in students' perceptions of this service, possibly signaling issues that require attention and improvement.

Regarding commitment and attachment to the university (SHL3) and the willingness to recommend the university to others (SHL4), both received favorable ratings with average scores of 3.88 and 3.87, along with standard deviations of 0.94 and 0.878, respectively. While these scores suggest an overall satisfactory level and strong affiliation, the high standard deviations imply that some students feel less satisfied. This necessitates management to examine ways to enhance and strengthen these aspects, aiming to improve overall satisfaction and encourage students to continue their association and actively promote their institution.

Table 7. Overall Student Satisfaction with Facilities and Service Team at Dai Nam University

Encoding	Measurement Content	Average	Standard Deviation
SHL1	I am very satisfied with the facilities at Dai Nam University.	3,99	0,814
SHL2	I am very pleased with the service staff at Dai Nam University.	3,69	0,948
SHL3	I will continue to stay connected and accompany the university in the future.	3,88	0,94
SHL4	I will share positive words about the university with those around me.	3,87	0,878

Source: Extracted from SPSS 26.0

Table 8 describes the results of testing the differences in the overall satisfaction level of students at Dai Nam University, based on criteria such as gender, place of residence, course and department. Based on the collected data, there is no significant difference in the level of satisfaction between male and female students, with the value Sig. is 0.676, and the average score for male students is 3.8281 compared to 3.8729 for female students, showing that both genders have similar feelings about the school. However, a statistically significant difference was found between students living in dormitories and those not staying in dormitories, with students staying in dormitories having a higher level of satisfaction (an average of 4.1452).) compared to non-dormitory students (mean 3.8018) and the value Sig. is 0.017.

When considering courses, students in course 15 had the highest level of satisfaction

(average 4.0729), while students in course 16 had the lowest level of satisfaction (average 3.7208), and with Sig. is 0.048, there is a significant difference between courses. Regarding the differences between faculties, students in the Faculty of E-commerce and Digital Economics have the highest level of satisfaction (an average of 4.0547), in contrast to the Faculty of Business Administration with the lowest level of satisfaction (average is 3.7072), with Sig. is 0.018, showing that the difference in overall satisfaction between departments is also statistically significant. These findings demonstrate the need for administrators to pay attention to students' specific living conditions and learning environments, to ensure that every group achieves the highest possible level of satisfaction. can.

Table 8. Testing the difference in overall student satisfaction at Dai Nam University between different student groups

Criteria		Number	Average	Sig.	Conclusion
Sex	Male	80	3,8281	0,676	Không có sự khác biệt
	Female	120	3,8729		
Dormitory	Yes	31	4,1452	0,017	Có sự khác biệt
	No	169	3,8018		
Academic year	Batch 13	42	3,8393	0,048	Có sự khác biệt
	Batch 14	50	3,8200		
	Batch 15	48	4,0729		
	Batch 16	60	3,7208		
Faculty	Administration Management	76	3,7072	0,018	Có sự khác biệt
	Communication	55	3,9182		
	Logistics and Supply chain management	37	3,8919		
	E-commerce and Digital Economy	32	4,0547		

Source: Extracted from SPSS 26.0

V. RECOMMENDATIONS

Upgrade and enhance facilities: The analysis reveals that students are not entirely satisfied with certain facilities such as elevator systems, football fields, and especially the Wi-Fi network. To improve satisfaction, the university should focus on upgrading these facilities. First and foremost, improving the quality of the Wi-Fi connection is crucial as it directly impacts students' learning processes and communication. Additionally, upgrading elevator systems and providing more extracurricular recreational spaces, such as sports fields, will offer students more activity choices, thereby enhancing their overall experience at the university.

Enhance service quality from service staff: From the research results, it is evident that satisfaction with service staff fluctuates. To address this issue, the university should concentrate on training and developing skills for the staff, especially those in cleaning and technical roles. Providing training courses on customer service attitude, quick and effective problem-solving will help improve service quality and enhance student satisfaction.

Strengthen communication and feedback: To ensure that efforts to improve facilities and service are appropriately directed, the university should establish a two-way communication channel with students. This could include setting up online

forums, feedback mailboxes, or organizing regular meetings with students to gather opinions and suggestions. This way, the university can grasp the specific needs and desires of students, making improvement efforts more effective and tailored.

VI. CONCLUSION

Through the research process, the study has identified key factors influencing satisfaction and provided reasonable recommendations to improve the quality of both facilities and services. The most significant finding from the research is the emphasis on the importance of facilities and service staff for the academic and student life experience in a university environment. The data and analysis provided by the authors form a solid foundation for Dai Nam University to formulate strategic management policies, aiming not only to meet but also exceed student expectations. This will not only enhance overall satisfaction but also contribute to the sustainable development of the university. With a commitment to continuous improvement and innovation, the university is not just building an ideal educational environment but also creating a strong and positive academic community, reinforcing its reputation and position among students and the broader community.

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