The Effect of Facilities and Service Quality on Student Satisfaction at the Medan Vocational Training Center and Productivity

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ABSTRACT

Student Satisfaction at the Vocational Training Center and Productivity of the Vocational Training Center in Medan." The research uses a quantitative approach to determine the extent of the influence of independent variables on dependent variables. The population consists of 350 vocational training center students from March to September 2024, and the sampling technique uses the Solvin formula, resulting in 78 respondents. Data analysis is conducted using SPSS 27 with multiple linear regression analysis to determine the influence of independent variables on dependent variables. The research results indicate that facilities have a positive and significant influence on student satisfaction. This is evidenced by the significance value (0.000) < 0.05 and the calculated t-value (4.708) > the table t-value (1.922). Service quality also has a positive and significant influence on student satisfaction. This is evident from the significance value (0.000) < 0.05 and t-calculated (4.268) > t-table (1.988). Facilities and Service Quality simultaneously have a positive and significant influence on remaining satisfaction. This is evident from the calculated F-value (269.222) > beta, where Facilities (0.489) have a more dominant influence than Service Quality (0.463).

Keywords: Facilities and Service Quality, satisfaction.

I.   INTRODUCTION

The world is currently undergoing rapid and comprehensive technological transformation. These changes have had a significant impact on various aspects of human life, from the way we communicate and conduct transactions to the way we do business. In the economic sphere in particular, advances in information and communication technology have dramatically changed the way people trade goods and services, with many now shifting to digital platforms and online systems.

However, amid this rapid technological advancement, unemployment and employment issues remain serious challenges that need to be addressed. Unemployment not only affects the welfare of individuals and families, but can also disrupt the overall stability of the national economy, including in the North Sumatra region. Nevertheless, there is encouraging news from BPS Medan statistics, which show a decline in the unemployment rate in August 2024 to 5.10%, down 0.23% from 5.32% in the previous year. In this data, the manufacturing sector is recorded as the largest employer, while the agriculture, forestry, and fisheries sectors have experienced a downward trend in employment.

One of the fundamental problems faced in the world of employment is the mismatch between education and labor market needs. On the one hand, many employers and companies find it difficult to find workers with the skills that match their needs. On the other hand, many job seekers have skills that are not in line with what the market needs. This phenomenon shows that efforts to improve the quality of the workforce do not always keep pace with the ever-changing dynamics of the world of work. One of them is by paying attention to satisfaction

According to Prasetio (2012), student satisfaction is a customer response that indicates that their needs and desires have been adequately met by the product or service provider. For example, a satisfied repair shop customer whose motorcycle was repaired quickly, with good results, and by a professional mechanic. Efforts to increase satisfaction are certainly influenced by several factors, one of which is facilities. Facilities are all forms of support provided in the form of buildings, equipment, or supplies to facilitate an activity. For example, a campus that provides lecture rooms, libraries, laboratories, and Wi-Fi to support student learning activities. In addition to facilities, one factor of satisfaction is service quality. Pertiwi et al (2022)

Service quality is the ability of a company or organization to provide services that satisfy the needs and desires of its customers. Like a beauty salon that provides excellent treatment results, uses quality products, and has skilled and professional therapists.

The Medan Vocational Training and Productivity Center (BBPVP), located at Jalan Amal No.9, Lalang, Medan, plays a strategic role. As a Technical Implementation

Unit under the Directorate General of Training and Productivity Development, Ministry of Manpower of the Republic of Indonesia, BBPVP Medan has a major responsibility in developing and empowering the workforce, particularly through training and certification programs in the fields of Tourism Engineering and Automotive Engineering.

However, the Vocational Training and Productivity Center (BBPVP) has recently experienced several problems, one of which is that training participants often complain about inadequate learning facilities, such as limited and outdated practical equipment. Some instructors are also considered to be inexperienced in delivering the material, making it difficult for participants to understand the lessons properly. In addition, administrative services are sometimes slow in responding to participants' needs, such as handling pocket money, attributes, dormitory services, and teaching and learning activity services. The limited training time also makes participants feel that they have not sufficiently mastered the skills being taught.

An initial survey of 30 BBPVP students showed low satisfaction levels. Only 43% of respondents were satisfied with the training, 34% were interested in re-enrolling, and 33% were willing to recommend it to others. Regarding facilities, only 33% of respondents were satisfied with the room layout, 40% agreed with the flexibility of the arrangements, and 33% were satisfied with the practical equipment. As for service quality, only 33% of respondents were satisfied with the administrative services, 40% were satisfied with the handling of complaints, and 33% felt that the material was appropriate for their work needs.

Previous studies have shown mixed results. Asyro et al (2020) and Iwan & Hendriana (2022) found that service quality and facilities have a positive and significant effect on student satisfaction. However, Bagyo et al (2023) found that facilities do not affect student satisfaction. Based on these phenomena and research gaps, the researcher is interested in conducting a study titled **"The Influence of Facilities and Service Quality on Student Satisfaction at the Vocational Training Center and Productivity of the Vocational Training Center in Medan."**

II.   LITERATURE REVIEW

Definition of Facilities

Sufiyati et al (2021) Facilities are everything that is provided to facilitate and smoothen an activity. For example, in schools there are classrooms, desks, blackboards, and toilets that help the teaching and learning process run smoothly. Ayu (2024) Facilities are resources and infrastructure that can be used to meet the needs and provide comfort for their users. For example, a hospital has facilities such as examination rooms, patient beds, medical equipment, and waiting rooms that improve health services. Aidil & Suyuthie (2023). Facilities can be defined as all forms of equipment or tools provided to facilitate an activity. For instance, a mall or shopping center is equipped with parking lots, elevators, escalators, restrooms, and food courts to provide comfort to visitors while shopping.

Definition of Service Quality

According to Fauzi et al (2022), service quality is the totality of the characteristics of goods and services that demonstrate their ability to satisfy customer needs, both apparent and hidden. For companies operating in the service sector, providing quality service to customers is an absolute must if the company wants to achieve success. According to Naibaho et al (2022), service quality is a complex matter. The quality of service received by consumers is defined by Ravella (2021) as the difference between their expectations and perceptions, where if the service received meets or exceeds expectations, the quality of service is perceived as good and satisfactory, and vice versa, if the service received is lower than expected, the quality of service is perceived as poor.

Consumer perceptions of service quality are influenced by their expectations of the desired service. These expectations are shaped by what consumers hear from other consumers through word of mouth, consumer needs, consumers' past experiences, and the influence of external communication. The service received from existing expectations influences consumers' perceptions of service quality.

Definition of Satisfaction

Gultom & Fahmi (2020) Student satisfaction is a consumer policy in determining their level of satisfaction with the price and quality of services offered by a company. According to Meithiana (2019), student satisfaction is a feeling of pleasure or disappointment that arises from comparing the perceived performance of a product

or result with their expectations or hopes. According to (Tjiptono, 2014), student satisfaction is an emotional response to experiences related to certain products or services purchased, behavior patterns (such as shopping behavior and buyer behavior), and the market as a whole. Student satisfaction is a form of the uniqueness of a good or service in providing a level of comfort related to the fulfillment of a need.

III.   METHODS

This study uses a quantitative approach, which will determine the extent of the influence of independent variables on dependent variables. Quantitative research is research that involves the process of collecting and analyzing numerical data objectively to describe, predict, or control variables of interest. This research is expressed in numbers and graphs and is used to test or confirm theories and assumptions (Sugiyono, 2019). The sampling technique used to determine the samples to be used in this study is Nonprobability Sampling. Nonprobability Sampling is a sampling technique that does not give equal opportunity to every element or member of the population to be selected as a sample.

The data collection methods used in this study are:

1. Interviews

    By communicating with parties related to the research topic.

2. Questionnaires

    A questionnaire is a method of data collection by asking respondents questions about the variables in the study. This method is used to reveal the identity of the study and to uncover the variables in the study in order to obtain specific information and involve data management where data collection uses a questionnaire as a tool. The questionnaire or survey data collection method has several advantages, namely that it is easy to manage, the data obtained is reliable, and the coding, analysis, and interpretation of data are relatively simple.
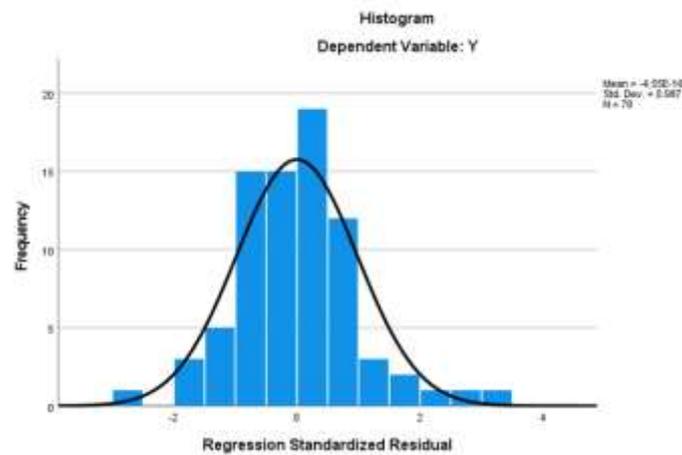
IV.   RESULTS

Classical Assumptions

1.Normality Test
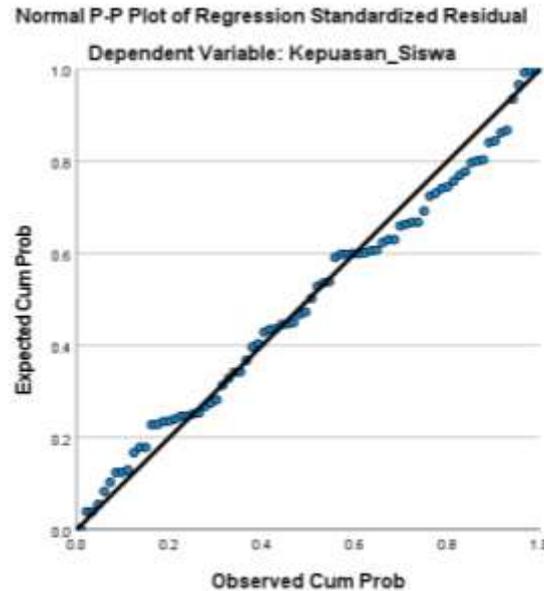
a. Histogram Approach

Source: data processed by researchers (2025)

Figure 1
Histogram Normality Testing Results

The bell-shaped distribution of data in Figure 1 shows that the variables are normally distributed, meaning they do not vary to the left or right.

` 　**b. Normal P-P Plot Graph Approach**

Source: data processed by researchers (2025)

Figure 2
Normal Probability Plot Test

Figure 2 illustrates how the image displays points that follow the diagonal line of the data. This suggests that the residuals of the researcher are

within typical limits. However, the Kolmogorov-Smirnov test is used to further confirm that the data is regularly distributed along the diagonal line.

c. Kolmogorov-Smirnov Approach

Table 1
One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		78
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	2.34936004
Most Extreme Differences	Absolute	.078
	Positive	.078
	Negative	-.071
Test Statistic		.078
Asymp. Sig. (2-tailed)[c]		.200[d]

Source: data processed by researchers (2025)

Table 1 shows that the Asymp. Sig. (2-tailed) value is 0.200, which is greater than the significance level of 0.05 (0.200>0.05). This means that the normality assumption is satisfied. Thus, based on the testing criteria, it can be concluded that the data is normally distributed.

2. Multicollinearity Test

Table 2
Multicollinearity Test

Model		Sig.	Collinearity Statistics	
			Tolerance	VIF
1	(Constant)	.803		
	Fasilitas	.000	.166	6.040
	Kualitas_Layanan	.000	.166	6.040

Source: data processed by researchers (2025)

Table 2 shows that the tolerance values of all independent variables are greater than the specified value of 0.1, and the VIF values of all independent variables are less than the specified value of 10. Therefore, the data in this study does not have multicollinearity issues.

3. Heteroscedasticity Test
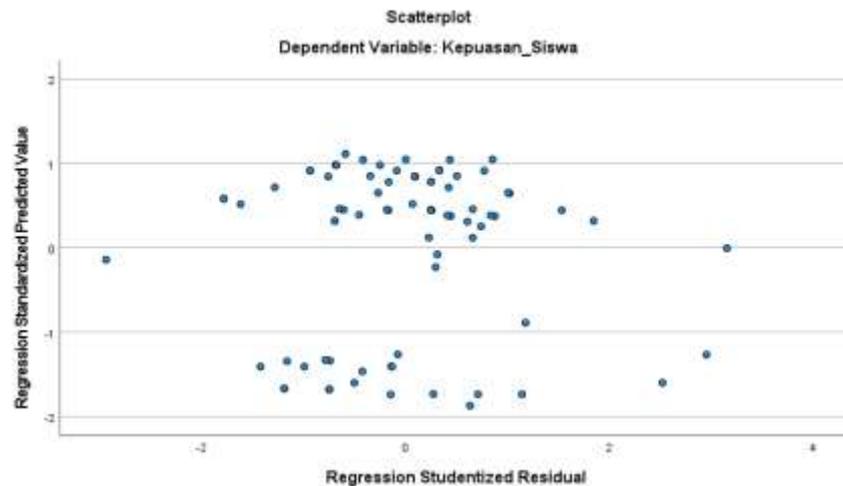
Source: data processed by researchers (2025)

Figure 3
Heteroscedasticity Test

The graphical method indicates that there is no heteroscedasticity in the regression model that is worth adopting because Figure 3 shows no discernible pattern and the dots are dispersed above and below the number 0 on the Y axis.

Hypothesis Test Results

Test t (Partial Test)

The t-test was conducted to partially test whether Facilities (X1) and Service Quality (X2) partially or individually affect Student Satisfaction. To test this hypothesis, tcount was compared with ttable with the following conditions:

H0 is accepted if tcount ≤ ttable or sig t ≥ α (0.05)

H1 is accepted if tcount> ttable or sig t < α (0.05)

It is known that to find ttable, the following applies:

Probability = 5% or (0.05)

df = n-k-1

df = 78-2-1

df = 75

ttabel = probability x df

ttabel = 0.05 x 75

Therefore, ttabel = 1.992

Table 3
Partial Test (T Test)

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.254	1.015		.250	.803
	Fasilitas	.388	.082	.489	4.708	.000
	Kualitas_Layanan	.405	.091	.463	4.454	.000

Source: data processed by researchers (2025)

Based on the partial test results (t test) presented above, it can be concluded that:

1. Facility Variables have a positive and significant effect on Service Quality. This can be seen from the significant value (0.000) < 0.05 and t-count (4.708) > t-table (1.992).

2. The Service Quality variable has a positive and significant effect on Student Satisfaction. This can be seen from the significant value (0.000) < 0.05 and t-count (4.454) > compared to t-table (1.992).

F test (simultaneous)

This test was conducted to examine the simultaneous effect of the independent variables of Facilities and Service Quality Satisfaction on the dependent variable of Student Satisfaction.

To find the F table, the following is known:

Probability = 5% or (0.05)

df 1= k

df 2= n-k-1

F table = probability x (df 1) x (df 2)

F table = 0.05 x 2 x 75

Therefore, F table = 3.118

Table 4

Simultaneous Significance F Test Results (F-Test)

ANOVAa

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2748.794	2	1374.397	242.540	.000b
	Residual	425.001	75	5.667		
	Total	3173.795	77			

a. Dependent Variable: Kepuasan_Siswa

b. Predictors: (Constant), Kualitas_Layanan, Fasilitas

Source: data processed by researchers (2025)

Table 4 shows that the F-calculated value is 242.540 with a significance level of 0.000. Meanwhile, the F-table at a 95% confidence level ($\alpha = 0.05$) is 3.118. Therefore, in both calculations, F-calculated > F-table (242.540> 3.118) and the significance level (0.000) < 0.05, it indicates that the simultaneous effect of the independent variables Facilities (X1) and Service Quality (X2) is significant on Student Satisfaction.

Test Coefficient of Determination (R2)

Table 5
Test Results of the Coefficient of Determination
Model Summaryb

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.931a	.866	.863	2.38048

a. Predictors: (Constant), Kualitas_Layanan, Fasilitas

b. Dependent Variable: Kepuasan_Siswa

Source: data processed by researchers (2025)

Based on Table 5, it can be seen that the Adjusted R Square value of 0.863 means that 86.3% of Student Satisfaction can be explained by Facilities (X1) and Service Quality (X2). Meanwhile, the remaining 13.7% can be explained by other variables not examined in this study.

1. **The Effect of Facilities on Student Satisfaction**

Based on the t-test, the Facility variable has a positive and significant effect on Student Satisfaction. This can be seen from the significance value (0.000) < 0.05 and the t-count (4.708) > t-table (1.922), meaning that Ho is rejected and H1 is accepted.

Based on research on the Facilities variable that was distributed to 78 respondents, the question with the highest mean value was question number 7, namely "The color of the room walls provides a comfortable atmosphere for learning"

with a mean of 3.79. The researchers found that 33 respondents (42.31%) answered strongly agree and 15 respondents (19.23%) answered agree. Respondents argued that the visual comfort aspect of the room was the most satisfying facility factor for them in supporting the learning process.

Overall, researchers found that respondents gave positive responses with a mean score ranging from 3.56 to 3.79. This shows that the training facilities are of good quality in supporting the participants' learning process. The majority of respondents believed that the visual comfort of the room, accessibility of equipment, lighting, layout, and condition of equipment had a positive impact on their learning experience. Although some aspects, such as room size and the number of practical equipment, needed improvement, overall the training facilities were reliable and contributed significantly to improving the quality of learning by providing a conducive environment that supported participants' practical activities.

This study is in line with research conducted by Kurniawan and Hidayat (2023), which states that facilities have a partial positive and significant effect on student satisfaction. This is reinforced by research conducted by Anggraini et al (2022), which found that facilities have a partial positive and significant effect on student satisfaction.

2.   The Effect of Service Quality on Student Satisfaction

Based on the t-test, the Service Quality variable has a positive and significant effect on student satisfaction. This can be seen from the significance value (0.000) < 0.05 and the t-count (4.268) > compared to the t-table (1.988), meaning that Ho is rejected and H1 is accepted.

Overall, researchers found that respondents gave positive responses with a mean score ranging from 3.45 to 3.79. This shows that customer satisfaction with training services is of good quality in meeting participants' expectations. The majority of respondents believed that the relevance of the material to the world of work, administrative services, staff responsiveness, instructor mastery of the material, and schedule accuracy had a positive impact on their training experience. Although some aspects, such as competency certification and the professional appearance of instructors, need improvement, overall, BBPVP training services are a reliable

program and contribute significantly to increasing participant satisfaction by providing materials relevant to industry needs and responsive services.

The results of this study are in line with Setiagraha et al (2023), who found that customer satisfaction has a positive and significant effect on customer loyalty, and is reinforced by research conducted by Akop and Sukarno (2022), which found that customer satisfaction has a positive and significant effect on employee performance.

3.   The Influence of Facilities and Service Quality on Student Satisfaction

Based on the results, the calculated F-value is 269.222 with a significance level of 0.000. Meanwhile, the F-table at a 95% confidence level ($\alpha = 0.05$) is 3.101. Therefore, in both calculations, the calculated F-value is greater than the F-table (269.222> 3.106) and the significance level (0.000) < 0.05, it indicates that the simultaneous effect of the independent variables Facilities (X1) and Service Quality (X2) is significant on Student Satisfaction. This is in line with the research conducted by Deltu et al (2024) that simultaneously, Facilities and Service Quality have a positive and significant effect on student satisfaction and is reinforced by research conducted by Fatia et al (2024) that simultaneously, Facilities and Service Quality have a positive and significant effect on student satisfaction.

Based on the influence values of Facilities and Service Quality on Student Satisfaction, it can be seen that Facilities have a greater contribution than Service Quality. This can be seen from the Standardized Coefficients Beta value for Facilities, which is 0.489, compared to Service Quality, which is 0.463. This shows that Facilities have a more dominant role in influencing Student Satisfaction.

Both independent variables have a significance value of 0.000 < 0.05, indicating that both have a significant effect on Student Satisfaction. This means that Facilities and Service Quality are important factors that need to be considered in improving the satisfaction of training participants. By improving the quality of training facilities and service quality as a whole, it is hoped that this will encourage an increase in the level of satisfaction and positive experiences of participants in the training program.

Overall, this study indicates that Facilities and Service Quality play a crucial role in influencing Student Satisfaction. The dominance of Facilities shows that in the context of vocational training, participants prioritize the quality of the learning

environment and the availability of infrastructure that supports the practical learning process. Therefore, it is necessary to prioritize improving the quality of training facilities while maintaining and improving service quality to create sustainable satisfaction and enhance the reputation of training institutions in producing competent and job-ready graduates.

V. CONCLUSION

Based Based on the results of the analysis and discussion conducted in this study, the researcher draws the following conclusions

1. Facilities have a positive and significant effect on student satisfaction.

2. Service quality has a positive and significant effect on student satisfaction.

3. Facilities and service quality simultaneously have a positive and significant effect on student satisfaction.

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