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The Effect of Campus Facilities Quality and Technology Support on Student Satisfaction

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Copyright: © 2025 by the authors. Submitted for open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (http://creativecommons.org/licen ses/by/4.0/). **Abstract:** The aim of this research is to show how technological support and the quality of campus facilities influence student satisfaction at Panca Budi Development University. Data was collected from 58 respondents through a five-point Likert scale questionnaire. The independent variables, namely technology support and campus facilities, are related to the dependent variable, namely student satisfaction. This study was conducted using multiple linear regression analysis. Research shows that student satisfaction is significantly and positively influenced by technological support and campus facilities. Campus facilities have the smallest influence, but technology support has the greatest influence (regression coefficient 0.838). Simultaneously these two variables make a significant contribution to student satisfaction (E-count = 122.645; p < 0.05). With a coefficient of determination (R2) of 81.7%, this research shows that more technological support and campus facilities are needed to create an ideal learning environment and increase student satisfaction.

Keywords: Influence of Facilities, Satisfaction Obtained, Technological Completeness, Accounting Applications

Introduction

Higher education is essential to produce human resources who are capable and ready to face challenges around the world. Universities, as institutions that provide higher education, are faced with the demand to provide various facilities and supports that can help students learn. The available campus facilities and technological support provided by educational institutions are important components that affect the quality of education. Quality campus facilities and adequate technology systems can provide a more optimal learning experience for students, thus affecting their level of satisfaction with the education received.

Campus facilities include various physical aspects and infrastructure provided by the university to support students' academic and non-academic activities. Some of the facilities included in this category include comfortable lecture halls, laboratories for practicum activities, a complete library, sports areas, and recreational facilities such as meeting rooms and cafes where students socialize. Each of these components contributes to the formation of an ideal environment in which students can learn and grow. A study conducted by Alavi et al. (2018) shows that the quality of campus facilities can affect students' perception of their learning comfort, which in turn can increase the level of student satisfaction with the institution.

Meanwhile, technology support is also an important factor in supporting the quality of education. Information and communication technology (ICT) that supports learning activities is becoming increasingly relevant in today's digital era. The use of e-learning platforms, access to digital journals, software for data analysis, as well as fast and stable internet network infrastructure are essential to support an effective educational process. Technology allows students to access learning materials more flexibly, collaborate with classmates online, and use various available online learning resources. This not only simplifies the learning process, but also opens up opportunities for students to develop technological skills that are needed in the world of work (Yuen et al., 2017).

Student satisfaction, which is the main focus in this study, is a subjective assessment of students on various aspects on campus, be it related to learning experiences, facilities, or services provided by the institution. Student satisfaction is often considered an important indicator in assessing the quality of educational services. Various studies show that student satisfaction can affect academic commitment, student retention, and their decision to choose a particular university (Chon & Park, 2017). Campus facilities and college technology support are important components in increasing student satisfaction.

In the context of universities in Indonesia, attention to the quality of campus facilities and technological support is increasingly important, especially with the rapid development in the digital world and the demands of globalization in the field of education. Although various studies have been conducted to examine the relationship between campus facilities, technology, and student satisfaction, there are not many studies that specifically investigate the influence of these two components on higher education in Indonesia. As a result, this study aims to find out the extent to which campus facilities and technological support affect student satisfaction at one of the universities in Indonesia.

It is hoped that this research will provide more in-depth insights into things that affect student satisfaction levels. This research is also expected to provide useful recommendations for university managers on how to improve educational services by improving campus facilities and using technology better. Thus, universities can create a more quality academic environment, increase student satisfaction, and produce graduates who are ready to work.

Literature Review

Quality

Quality has many criteria that are set by various experts as the pibak that creates quality, because the definition or definition of quality is very broad, relative, changeable, and dynamic. Products, services, individuals, processes, and environments are often associated with quality that meets or exceeds expectations. In addition, experts in determining quality will differ from each other. Quality, according to ISO 8402 and SNI (Indonesian National Standard), is defined as a set of characteristics and characteristics of a service or good that can meet a specific need explicitly or indirectly.

Campus Facilities

Campus facilities are an important element that supports the learning process and student development holistically. According to Santoso (2020), the existence of facilities such as comfortable classrooms, libraries, laboratories, and recreation areas can increase the effectiveness of learning and student welfare. In addition, research by Wicaksono and Rahayu (2019) shows that adequate campus facilities play an important role in creating a pleasant academic atmosphere, which in turn has an impact on better academic performance. Other facilities, such as internet access, sports facilities, and canteens, also have a great contribution in supporting the daily activities of students on campus (Siregar, 2021). Therefore, good campus management is an important part of creating an ideal educational environment for students and other members of the academic community.

Technology Support

Technology support is a crucial aspect in maximizing the use of technology, both in the individual and organizational scope. This support includes a range of services and resources that aim to ensure that the technology can function optimally and provide the expected benefits. According to Laudon and Laudon (2020), technology support includes hardware and software maintenance, technical troubleshooting, user training, and system development that supports organizational needs. Technology support not only helps users understand how technology works, but also increases the effectiveness of using the technology in daily life.

Student Satisfaction

The word "satisfaction" comes from the Latin word facio which means "to do" or "to make," and satis which means "sufficient" or "adequate." In simple terms, satisfaction means achieving something or being enough. Although customer satisfaction is an abstract concept, it is essential to marketing theory and practice is one of the main goals of business operations.

In college, students are the primary recipients of services. Student satisfaction occurs when their expectations of the services provided by the higher education institution are proportional to what they feel after receiving them. In other words, student satisfaction occurs when their expectations of staff service, teacher competence supported by facilities and leadership are proportional to how teachers feel after receiving the service.

Methodology

This study uses a quantitative approach with the type of explanatory research. This approach allows for the collection and analysis of numerical data to objectively measure the relationships between variables. As an explanatory research, the main goal is to

evaluate the causal relationship between student satisfaction as a dependent variable and the quality of campus facilities as an independent variable.

This study was conducted on students of Panca Budi Development University, with a sample of 61 respondents from a total population of 158 students. The determination of the sample was carried out using the Slovin formula with an error tolerance rate of 10%. Data was collected through an online questionnaire using Google Form, which included three main variables: technology support, campus facilities, and student satisfaction. The five-point Likert Scale is used to measure the level of respondents' approval of the submitted statement.

Data analysis was carried out using the SPSS 21 program. Several stages of analysis include instrument tests, classical assumption tests (normality, multicollinearity, and heteroscedasticity), and multiple linear regression analysis. To measure the influence of independent variables on dependent variables, the determination coefficient test was used, while the significance of the relationship between variables was analyzed through a regression test.

Result and Discussion

Classical Assumption Test Results of the Normality Test

 Table 1. Kolmogrov-Smirnov Regression Test Results

One-Sample Kolmogorov-Smirnov Test				
		Unstandardize		
		d Residual		
Ν		58		
Normal Parameters ^{a,b}	Mean	.0000000		
	Std. Deviation	1.32281815		
Most Extreme Differences	Absolute	.095		
	Positive	.060		
	Negative	095		
Test Statistic		.095		
Asymp. Sig. (2-tailed)		.200 ^{c,d}		
a. Test distribution is Norma	al.			
b. Calculated from data.				
c. Lilliefors Significance Cor	rection.			
d. This is a lower bound of t	he true significanc	ce.		
Source: Primary Data Processing Results (2024)				

5 of 11

According to the results of the previous Kolmogorov-Smirnov normality analysis, the research data met the assumption of normality. This is indicated by a significance value (Asymptotic Sig. 2-tailed) of 0.200, which is greater than the alpha value of 0.05 and the statistical value of the Kolmogorov-Smirnov test of 0.095. The study used a sample of 58 people. The data is normally distributed around the middle value, with a residual mean value of 0.0000000 and a standard deviation of 1.32281815.

The fulfillment of this normality assumption shows that the research data is very representative and widespread so that it can represent the characteristics of the population being studied. Having met one of the important requirements for parametric statistical analysis, regression analysis can proceed to the next stage. These results also show that the results of the data analysis of this research are reliable and can be generalized to all students of Panca Budi Development University.

	Table 2. Data Multicollinearity Test Results							
	Coefficients ^a							
	Model	Unstan	dardized	Standardized	t	Si	Colline	arity
		Coefficients		Coefficients	_	g.	Statistics	
		В	Std.	Beta	_		Toleran	VIF
			Error				ce	
1	(Constant)	1.753	1.189		1.4	.1		
					74	46		
	Campus	.271	.116	.217	2.3	.0	.385	2.59
	Facilities				30	24		7
	Technology	.838	.108	.724	7.7	.0	.385	2.59
	Support				84	00		7
	a. Dependent Variable: Student Satisfaction							

Multicollinearity Test Results

Source: Primary Data Processing Results (2024)

The results of the multicollinearity test showed that two independent variables, technology support and campus facilities, had a tolerance value of 0.385. Their VIF value is 2.597, which is lower than 10 and higher than 0.10. This suggests that the symptoms of multicollinearity or independent variables have no significant correlation in the regression model. Therefore, the assumption of non-multicollinearity has been met, and the regression model used is reliable without giving rise to bias in parameter estimation.

Heteroscedasticity Test Results



Figure 1. Scatterplot Test Results Source: Primary Data Processing Results (2024)

The analysis shows a number of important findings based on the results of the heteroscedasticity test, which is shown in the scatterplot graph. In general, data points on a graph are scattered randomly without forming a systematic pattern such as wavy, widening, or narrowing. The X-axis (Regression Standardized Predicted Value) shows this spread that is even throughout, indicating that there is no pattern that causes heteroscedasticity.

In addition, according to the Residual Regression Standard, the distribution of data points appears to be balanced on the Y-axis, both above and below zero., with a spread range between -3 and +3. This shows that the residual variation is constant and is not affected by the prediction value of the independent variable. This even spread reflects the stability of residual variance along the range of prediction values, which is characteristic of the assumption of homoscedasticity.

The fact that the dots spread does not have a clear data pattern suggests that the regression model used did not find any heteroscedasticity problems. In other words, residual variance does not differ between observations. To ensure the validity of the analysis results, the fulfillment of this homoscedasticity assumption is one of the main requirements for linear regression analysis.

Therefore, the regression model used in this study has met the assumption of homoscedasticity. This suggests that the residual variance inequality did not exist during observation. Thus, the regression model used to predict the student satisfaction variable, which is based on the variables of campus facilities and technology assistance, is highly accurate and consistent. If these assumptions are met, the findings of the regression analysis can be considered valid and relevant as a basis for drawing research conclusions.

Multiple Linear Regression Test

Table 3. Multiple Linear Regression Test Results							
Coefficients ^a							
Model	Unstandardized Standardized						
	Coe	fficients	Coefficients	ents			
	В	Std. Error	Beta				
1 (Constant)	1.753	1.189		1.4	.14		
				74	6		
Campus	.271	.116	.217	2.3	.02		
Facilities				30	4		
Technology	.838	.108	.724	7.7	.00		
Support				84	0		
a. Dependent Variable: Student Satisfaction							

Source: Primary Data Processing Results (2024)

The results of multiple linear regression analysis for the research entitled "Analysis of the Influence of Campus Facilities Quality and Technology Support on Student Satisfaction of Panca Budi Development University" show the following regression model: Where:

Y = Student Satisfaction

X₁ = Campus Facilities

 X_2 = Technology Support

1.753 = Constant Value

In this regression analysis, the constant value of 1,753 shows that Student Satisfaction (Y) remains at 1,753 units even though the variables Campus Facilities (X1) and Technology Support (X2) have no influence at all or have a value of zero. This shows that in addition to the variables studied, there are other factors that affect student satisfaction.

The regression coefficient of Campus Facilities showed a positive value of 0.271 with a significance level of 0.024, below 0.05. According to this value, campus facilities have a positive and significant impact on student satisfaction. Assuming the variable of Technology Support remains unchanged, Student Satisfaction of 0.271 units will increase by one unit on this variable.

However, the regression coefficient of Technology Support showed a positive value of 0.838 with a significance level of 0.000, much smaller than 0.05, indicating that Technology Support also had a significant influence on Student Satisfaction. Assuming the variable of Campus Facilities remains constant, an increase of one unit in Technology Support will increase Student Satisfaction by 0.838 units.

Therefore, the two independent variables were proven to have a positive and significant influence on student satisfaction. However, technology support had a greater influence (0.838) compared to campus facilities (0.271), indicating that improving campus facilities would not be more effective in increasing student satisfaction than improving the quality of technology support.

Table 4. Partial Test Results (t-Test)							
Coefficientsª							
Model	Unsta	t	Si				
	Coe	efficients	Coefficients		g.		
	В	Std. Error	Beta				
1 (Constant)	1.753	1.189		1.4	.1		
				74	46		
Campus	.271	.116	.217	2.3	.0		
Facilities				30	24		
Technology	.838	.108	.724	7.7	.0		
Support				84	00		
a. Dependent Variable: Student Satisfaction							

Partial Test Results (T Test)

Source: Primary Data Processing Results (2024)

Based on the results of the partial test (t-test), it can be concluded that two independent variables, Technology Support (X2) and Campus Facilities (X1), have a positive and significant influence on student satisfaction. The Campus Facilities variable has a t-count value of 2,330 and a significance level of 0.024. The calculated t-value is greater than the t-value of the table (1.673) and the significance level is lower than 0.05. This shows that the level of student satisfaction is greatly influenced by better campus facilities.

However, with a t-count value of 7.784 and a significance level of 0.000, the technology support variable has a greater influence. The t-count value is greater than the t-table (1,733) and has a very low level of significance, indicating that technology support has the most significant role in improving student satisfaction. Thus, it can be concluded that, although both factors are important, technological support exerts a greater influence than campus facilities on student satisfaction levels at Panca Budi Development University.

Table 5. Simultaneous Test Results (Test f)								
	ANOVAª							
Model		Sum of	df Mean		F	Sig.		
	Squares Square							
1	Regressio	444.828	2	222.414	122.645	.000b		
	n							
	Residual	99.741	55	1.813				
	Total	544.569	57					
a. Dependent Variable: Student Satisfaction								
b. Predictors: (Constant), Technology Support, Campus Facilities								
Source: Primary Data Processing Results (2024)								

Simultaneous Test Results (Test F)

According to the results of the simultaneous test (test F), the variables of Campus Facilities (X1) and Technology Support (X2) have a simultaneous and positive effect on Student Satisfaction (Y). The F-value of the count is 122.645, with a significance level of 0.000, and the F-value of the table is 3.16, each with a confidence level of 95% ($\alpha = 0.05$), indicating that the F-value of the count is greater than the F-value of the table and the significance value is lower than 0.05.

The results of the F test also show that the regression model has an excellent degree of precision; The total regression squared value was 544,569 and the residual square was 99,741, with a regression square value of 444,828 and a residual square of 1,813. The calculated F-value is much larger than the F-value of the table, which shows that the regression model is valid and reliable for explaining the variation of dependent variables.

The increase in campus facilities and technology support simultaneously has a significant impact on student satisfaction at Panca Budi Development University. This is indicated by a very small level of significance and a strong simultaneous influence. If these two variables are combined, the results can be better.

Table 6. Determination Coefficient Test Results (R Test)								
Model Summary ^b								
Mod	R	R R Adjusted R Std. Error						
el		Square	Square	of the				
				Estimate				
1	.904ª	.817	.810	1.34665				
a. Pr	edictors:	(Constant),	Technology	SupportI,				
Campus Facilities								
b. Dependent Variable: Student Satisfaction								
-				(

Determination Coefficient Test Results (R Test)

Source: Primary Data Processing Results (2024)

The test results showed that the variable was independent, with a determination coefficient (R2) of 0.817, or 81.7%. The adjusted value of R2 of 0.810, or 81%, indicates an adjusted value and is more accurate due to the number of independent variables used in the study. The support of technology and campus facilities was able to explain the variation of 81.7% of the dependent variable, student satisfaction. Other factors that were not included in the study model also accounted for 18.3% of the total score, or 100% to 81.7%. Since the value is almost equal to one, or one hundred percent, this value indicates that the model used has an excellent n ability to explain dependent variables.

In addition, an R value of 0.904, which is close to 1, indicates a very strong relationship between the independent and dependent variables. Finally, the standard estimation error rate of 1.34665 indicates the error rate in predicting dependent variables; lower values will improve the accuracy of the regression model.

Discussion

This study analyzes the influence of campus facilities and technology support on student satisfaction at Panca Budi Development University. The results of the normality test showed normal distributed data, while the multicollinearity and heteroscedasticity tests showed no problems in the regression model. Multiple linear regression analysis results in the equation $Y = 1.753 + 0.271X_1 + 0.838X_2$, with technology support (X₂) having a more dominant influence than campus facilities (X₁). Partial and simultaneous tests showed that both variables had a significant effect on student satisfaction. A coefficient of determination (R²) of 0.817 indicates that campus facilities and technological support can explain 81.7% of the variation in student satisfaction. These findings demonstrate the importance of increased technology support, while maintaining the quality of campus facilities, to create an optimal learning experience in the digital age.

Conclusion

Research shows that campus facilities and technology support increase student satisfaction at Panca Budi Development University. According to the classical assumption test, the regression model used is valid for normally distributed data, does not show multicollinearity and meets the assumption of homoscedasticity. With a coefficient en regression of 0.838 and 0.271, technological support has a greater influence compared to campus facilities, according to multiple linear regression analysis.

In addition, partial and simultaneous tests show that student satisfaction is significantly influenced by these two variables; Student satisfaction can be largely explained by both. In conclusion, this study emphasizes how important it is to get more technology support because technology plays an important role in the learning process in the modern era. Nonetheless, campus facilities must also be maintained as it is essential to create a good learning environment.

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