The Influence of Service Quality and Educational Facilities on Student Satisfaction is Mediated by The University Image

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| **Abstract** | Universities are now competing with each other to become the institution of choice due to global competitiveness. This essay examines the relationship between student enjoyment and various qualities of university services and facilities, which are mediated by the university's reputation. A cross-sectional survey is the methodology used in studies of this kind. This type of research uses a cross-sectional survey methodology. Participants in this study were students of Bina Darma University Palembang. One hundred twenty respondents were randomly selected to represent the sample. Least squares structural equation modeling was used for data analysis (SEM-PLS). The findings of this study indicate that the existence of service quality has a positive and significant effect on student satisfaction to provide the best service and improve the quality of service to students. The accuracy of the services offered can also be seen from the feedback given by students on certain services, and the extent to which the services provided are to student expectations and the image of the University mediates between University services and student satisfaction. Hence, efforts to improve campus image positively affect student satisfaction. |
| **Keywords** | Service Quality; Educational Facilities; Student Satisfaction |

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1. INTRODUCTION

The number of people who can access tertiary institutions in Indonesia has increased from year to year; there is an increase of 4.1% in 2020-2021, or the equivalent of 8,956,184 people, compared to the previous year, which was 8,603,441 people (data Indonesia. id), in 2022. So each tertiary institution must compete to become the tertiary institution of choice, plus competition in the market. Higher education today is heavily influenced by market-oriented globalization (Hemsley-Brown & Oplatka, 2006). As a sector representing the service industry, universities are starting to focus on meeting student needs and exceeding these needs (Gruber, 2009), which aims to meet student satisfaction. Satisfaction is defined as "a person's feeling of pleasure or disappointment that arises after comparing the performance (or result) of the product that is thought of against the performance (or result) expected." (Kotler et al. 2009). Student satisfaction has become the main focus of tertiary institutions because it is related to their success in getting as many students as possible and maintaining quality. These tertiary institutions become the leading universities that students are looking for. In addition, satisfied customers tend to have a higher probability of generating positive word-of-mouth (WOM) (Kwun et al., 2013) (Setyadi & Helmi, 2022), so universities will benefit from marketing carried out by satisfied students themselves. This word of mouth will also affect the image or reputation of the university.

In the process of fulfilling student satisfaction in a tertiary institution, many factors influence student satisfaction, some of which are service quality (Pattiwaellapia, 2020) (Rahareng & Relawan, 2017), university facilities (Kurbani, 2017) (Hanssen, T.-E.S. and Solvoll, 2015) and the image or reputation of the university (Permana et al., 2019) (Rahman, 2018). Service quality is related to efforts to fulfill consumer needs and desires as well as the accuracy of their delivery in keeping pace with consumer expectations (Tjiptono, 2007), meaning that the quality of campus services can be seen from the accuracy of the services provided by the campus with the expectations of students. Within its scope, service quality can be divided into administrative services and teaching quality in the classroom. Service quality is more intangible compared to tangible university facilities. The conceptual definition of "learning facilities" is furniture and supplies used to support the educational process, particularly the teaching and learning process. (Ambartiasari et al., 2017). If a tertiary institution has adequate university facilities, the teaching and learning process will be maximized, and vice versa. Both have been found in previous studies to affect student satisfaction (Pattiwaellapia, 2020) (Rahareng and Volunteers, 2017) (Kurbani, 2017) (Hanssen, T.-E.S., and Solvoll, 2015).

On the other hand, university facilities are also critical, where university facilities are a factor influencing student perceptions of the reputation of a tertiary institution (Nguyen et al., 2021). The image of a university is simply the impression students have of the university as a whole (Rahman 2018), and one can understand that the image of A campus is formed from the accumulated experience of students at a tertiary institution in accessing quality education, educational services, and facilities. So that in this study, the image of the campus will be used as a mediator variable on student satisfaction. As researchers know, university image has never been used as a moderator variable in viewing student satisfaction, even though campus image is related to student satisfaction (Permana et al., 2019) (Rahman, 2018). So this research will fill the gap above by examining the variable relationship between service quality, educational facilities, and student satisfaction, which is mediated by the university's image.

Each university will have a variety of service quality, and it is important to find out which stage the quality of a university is at. Simply put, the quality of service, according to Tjiptono, is "an effort to fulfill the needs and desires of consumers and the accuracy of their delivery in keeping pace with consumer expectations"(Tjiptono in Rahareng and Volunteers 2017). According to Widodo (Harahap et al., 2019) that institutions with good academic service quality because they have human resources and the availability of applications and information systems that are based on technological sophistication to collect and disseminate information more quickly, easily, and accurately. As well as good interaction between service providers and service recipients, namely students, will generate trust, credibility with mutual respect, respect, responsiveness, and giving.

On the other hand, Parasuraman et al. (1988), in Rahman (2018) also define service quality as "a reflection of consumers' evaluative perceptions of services received at a certain time." So that the feedback provided by consumers or, in this research, students is a way to find out whether the services provided by academic staff or lecturers are by student expectations. As previously explained, if service quality is invisible, university facilities are something students can see and feel directly (Ambartiasari et al., 2017). Supporting facilities in the teaching and learning process are important variables that students will consider in assessing the quality of the university as a whole. University image is a label attached to an institution, which makes the institution considered in the upper, middle, or even lower layers. This labeling occurs based on public perceptions, as Kotler and Keller (2007) explained, that an image is people's perception of a company or its product. Kotler further explained that "corporate image is described as the overall impression made in the public's minds about an organization." This inherent image will affect the choice of consumers or students in choosing a university, so efforts to improve the university's image are important to win the competition.

Student satisfaction can be interpreted as a response or response given by students to the service they actually get with the service they actually expect (Rahman 2018) the greater the gap that occurs between the two, namely the service expected by students with the service they actually accept, the smaller the satisfaction felt by students towards the university. Fulfilling students' wishes or expectations for university services will depend on various aspects owned by the university.
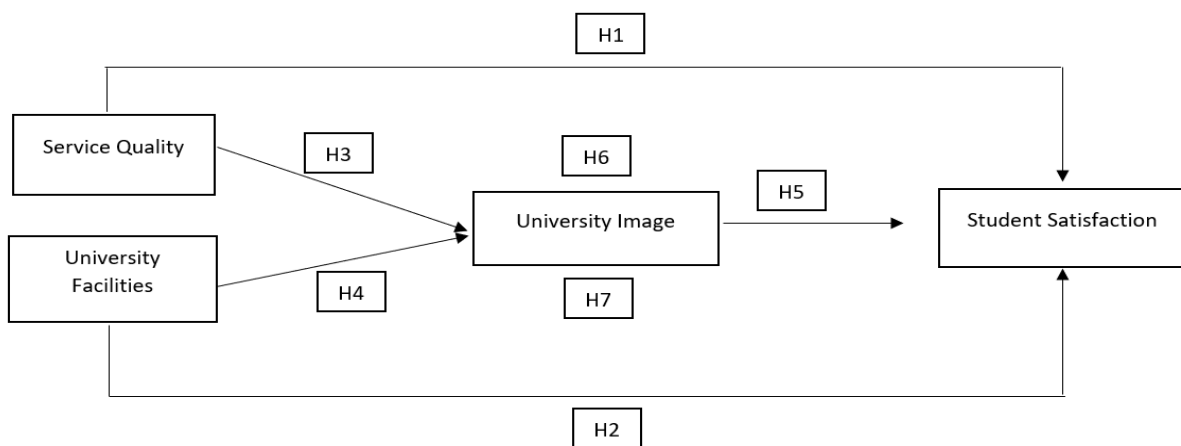

Figure 1. Research Framework

H1 : Service Quality affects Student Satisfaction

H2 : University Facilities affects Student Satisfaction

H3 : Service Quality affects University Image

H4 : University Facilities affects University Image

H5 : University Image affects Student Satisfaction

H6 : University Image act as a mediator of the Service Quality on student satisfaction

H7 : University Image act as a mediator of the University Facilities on Student Satisfaction

2. METHODS

The research method used is quantitative research with a cross-sectional survey approach. The primary data obtained in this study came from filling out questionnaires for University of Bina Darma Palembang students at the undergraduate and graduate education levels, with 120 respondents filling

out the questionnaire. The questionnaire was prepared based on relevant previous literature with a Likert scale of 1–5, and the selected variables will pass validity and reliability tests. The data will be processed with the help of the Structural Equation Model (SEM) and Smart PLS 3 software. SEM is used to resolve multilevel models when linear regression equations cannot do so simultaneously. Besides that, PLS SEM can also evaluate measurement models using bootstrapping and blindfolding, which can be used to construct non-parametric evaluation criteria. This evaluation measurement model focuses on evaluating construct validity and reliability.

3. FINDINGS AND DISCUSSIONS

To test the validity of the data obtained in this study, the Average Variance Extract (AVE) was used. The reliability tests used were Cronbach's alpha and composite reliability, which were based on the resulting loading factor values. Can be seen further in the table below :

Table 1. Variable Description

Variable	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)	Category
Service Quality	0.950	0.950	0.827	Valid & Reliable
University Facilities	0.944	0.944	0.810	Valid & Reliable
University Image	0.960	0.960	0.890	Valid & Reliable
Student Stisfaction	0.982	0.982	0.846	Valid & Reliable

Based on the table above, it can be seen that the validity test value indicated by the AVE value for the four variables is >0.5, which indicates that each indicator used is valid. Then the reliability test is represented by the CR values for the four variables, showing a value of > 0.8 and a Cronbach value of > 0.7. So the instruments used are appropriate and consistent in measuring each variable in this study.

Structural Model

The results of testing the model using SEM PLS can be used to see the structural model between service quality, university facilities, university image, and student satisfaction. They can further show the relationship between the hypotheses that previous researchers have built. Below is the structural model in this study;
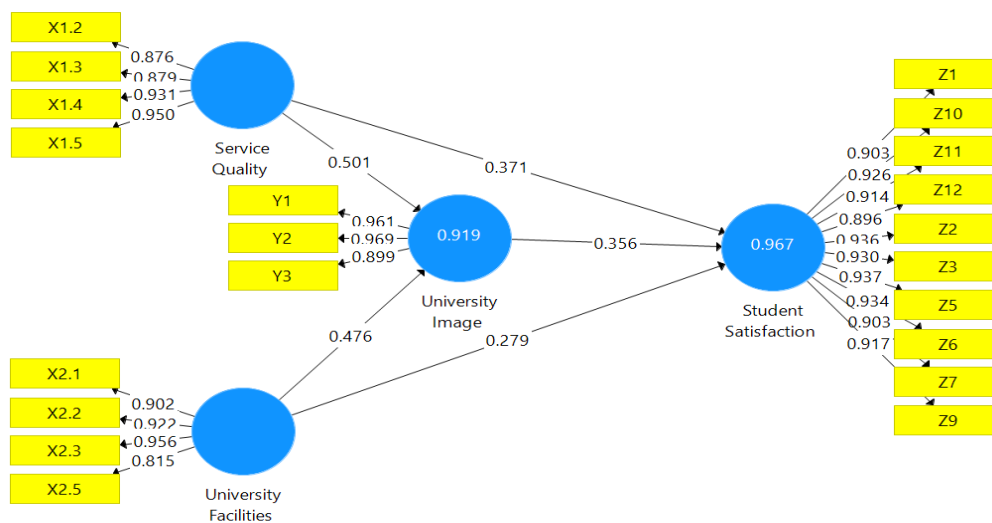
Figure 2. Model Fit Estimate

Based on the picture above shows that there are no correlated measurement errors, so the illustration in the structural model above meets the fit requirements. Then, to find out as a whole

whether a model is fit or not, see if the model meets at least four fit group indices, which can be seen in the table below as a whole:

Table 3. The goodness of Fit Test

Parameter	Saturated Model	Estimater Model	Description
d ULS	0.096	0.096	Fit
D G	0.708	0.708	Fit
Chi-Square	404.254	404.254	Fit
NFI	0.905	0.905	Fit

As shown in the table above, the value of d_ULS (the squared Euclidean distance) is 0.096 and d_G (the geodesic distance) is 0.708, where both values are greater than 0.05, which means that the model in this study has a low residual distribution. Then we can see that the Chi-Square value in the table above is classified as high, namely 404,254, with a significant P-value of 0.05. This indicates that the number of manifest variables in the PLS path model and the number of independent variables in the covariance matrix model are sufficient. And finally, this study's normal fit index (NFI) value was 0.905, which was above 0.9. So overall, this structural model is good or fits.

Hypothesis submission Structural Equation Model

In this study, seven hypotheses will be tested for correlation; one of the determining values for knowing the results of hypothesis testing is to look at the p-values generated from each hypothesis test, which can be seen in full in the table below:

Table 4. Summary of Hypothesis Tests on Relationships

Hypothesis	Original Sample (O)	Sample Mean (O)	Standart Devitation (STDEV)	T Statistics (|O/STDEV|)	P Values	Result
H1	0.371	0.367	0.135	2.747	0.006	Significance
H2	0.279	0.290	0.145	1.922	0.055	Not Significance
H3	0.501	0.485	0.145	3.458	0.001	Significance
H4	0.476	0.91	0.148	3.221	0.001	Significance
H5	0.356	0.349	0.142	2.505	0.013	Significance

Note: *significant at critical ratio > 1.96.

Based on the results of hypothesis testing in the table above, it can be seen that :

- Service Quality has a positive and significant effect on Student Satisfaction, with a t-value of 2.747 > 1.96 and P values of 0.006 < 0,05

- University Facilities have no significant effect on Student Satisfaction, with a t-value of 1.922 > 1.96 and P values of 0.055 > 0,05

- Service Quality has a positive and significant effect on University Image, with a t-value of 3458 > 1.96 and P values of 0.001 < 0,05

- University Facilities have a positive and significant effect on University Image, with a t-value of 3221 > 1.96 and P values of 0.001 < 0,05

- University Image has a positive and significant effect on Student Satisfaction, with a t-value of 2505 > 1.96 and P values of 0.013 < 0,05

Testing Mediation Effects

One of the objectives of this research is to examine the mediating role of university image on the effect of service quality on student satisfaction and the mediating role of university image on the effect

of university facilities on student satisfaction. Indirect and total effects can be calculated from T Statistics or P Values. The results of the analysis can be seen in the table below :

Table 5. Summary of Hypothesis Tests on Relationships

Hypothesis	Original Sample (O)	Sample Mean (O)	Standart Devitation (STDEV)	T Statistics (|O/STDEV|)	P Values	Result
H6	0.178	0.171	0.083	2.139	0.033	Full Meditation
H7	0.170	0.168	0.091	1.870	0.062	Not Meditation

Note: *significant at critical ratio > 1.96.

Based on the results of hypothesis testing in the table above, it can be seen that :

- University Image has a full mediating effect of the Service Quality on Student Satisfaction, with a t-value of 2139 > 1.96 and P values of 0.033< 0,05

- University Image has a full mediating effect of the University Facilities on Student Satisfaction, with a t-value of 1870 > 1.96 and P values of 0.062 < 0,05

University Image Has A Full Mediating Effect Of The Service Quality On Student Satisfaction

Based on the results of testing the two hypotheses above, it shows that the image of the University mediates between the variables of service quality and student satisfaction with a p-value of 0.033 0.05, so it can be concluded that the idea of the University only acts as a partial mediator of the effect of service quality on student satisfaction. The previous hypothesis has shown a significant influence between service quality and student satisfaction. The correlation between the two independent variables remains substantial without image-mediated campus variables. This agrees with the study's results that an institutional image that is perceived well and has a good impression will increase student satisfaction, meaning that the facilities at the University of Moch. Sroedji Jember is available according to expectations, the friendliness of the leadership within the faculty (deans, deputy deans, heads of study programs, and employees), ease and speed in obtaining information, compatibility of benefits with costs, graduating on time can make students loyal to Moch University. Sroedji (Noviasari, 2015).

In addition, Arwanda and Setiyawan (Mujahidin et al., 2018) show that university image positively influences student satisfaction at the IKIP PGRI Bojonegoro. Higher Education image is one of the factors that can satisfy students in terms of morality, management, performance, and services provided by tertiary institutions to students and other customers. The results of this study are from the research by Arwanda et al. (2014) in a study entitled "Satisfaction, Image, and Loyalty in Higher Education Institutions: Cases at the XYZ Academy." "Building Campus Image Through Student Satisfaction Based on Service Quality." Both show the results of the image that higher Education affects student satisfaction. Empirically, the findings of this study support the theory of corporate image put forward by Kotler, which states that building a photo is essential for the sustainability of an organization in the future. This is also reinforced by a study by Bloomer, saying that a good corporate image will satisfy customers. In line with the findings of Indrawati and Sondoh, it is stated that an excellent corporate image will affect customer satisfaction and customer loyalty (Qomariah, 2012).

In addition to the quality of educational and cultural services, Khattab (Putri et al., 2021), in his research, explains that the quality of services in the education sector needs to consider the image or reputation of the campus. Student satisfaction will have an impact on the reputation of Higher Education. Higher Education's good importance will influence people's perceptions in determining their chosen educational services. If the tertiary institution has a good reputation, the public will be willing to pay more for the cost of studying at the tertiary institution with a good reputation.

University Image Has A Full Mediating Effect Of The University Facilities On Student Satisfaction

However, paying attention to the image mediation variable on campus will also increase student satisfaction. Unlike the results of testing the second hypothesis, namely the image of the university does not mediate university facilities and student satisfaction with a p-value of 0.062 0.05, this finding is also by the previous hypothesis, which states that university facilities do not have a significant relationship with student satisfaction, even though a mediating variable is added. In the form of a campus image, the correlation between the two independent variables is insignificant. The study results from show that student satisfaction positively influences student loyalty at the IKIP PGRI Bojonegoro, so the more satisfied students are, the more commitment is formed. This is to the results of research by Tjandra et al. (Mujahidin et al., 2018) in a study entitled "Analysis of the Influence of Corporate Image on Customer Loyalty through Customer Satisfaction as an Intermediary Variable at Boncafe Surabaya Restaurant," which shows the results of customer satisfaction influence loyalty customer.

Annamdevula & Bellamkonda's Hieduqual approach (Eka & Putri, 2020) ensures that student satisfaction evaluations can be seen in their true colors, contributing to a better understanding of student requirements. Furthermore, Khan (Eka & Putri, 2020) Service quality also has a positive and significant indirect effect on customer loyalty through customer satisfaction. In addition, measuring service quality in higher education is very complex because of several unique features, such as the cognitive participation of customers (students) in the service process, student needs that various parties meet, and long-term and sustainable services. Likewise, with other studies, tangible, reliability, Assurance, empathy responsiveness, network quality, and convenience have a positive and statistically significant relationship with service quality.

According to Tjiptono, F (Larasati et al., 2022), quality is key in competition in various fields. One of them is in the world of higher education because the quality of service is an effort to meet customers' multiple needs and desires. Customers here in the sense of students. Service quality measures the success of a service institution provided to consumers.

These results are under Lupiyoadi's theory (Larasati et al., 2022), which is one of the five main factors that need to be considered in customer satisfaction, namely emotional, where customers will feel proud and believe that when someone uses a branded product, other people will be surprised and tend to have a high level of satisfaction. Satisfaction with a product is based on something different than quality but on its social value for customers. In this study, the dimensions of service quality were used as expressed by Kotler (Dewa, 2019), namely the first is tangibles, which include physical appearance and completeness of indicators. Second, Reliability or reliability, namely accuracy in providing services as promised. Third, Responsiveness, namely the response of managers or employees in offering assistance to consumers and providing fast and responsive services. Fourth Assurance includes the ability and knowledge of employees or managers to serve consumers.

4. CONCLUSION

Based on the results of testing the two hypotheses, it shows that the image of the university mediates between the variables of service quality and student satisfaction with a p-value of 0.033 0.05, so it can be concluded that the idea of the university only acts as a partial mediator of the effect of service quality on student satisfaction. However, paying attention to the image mediation variable on campus will also increase student satisfaction. Service quality has a positive and significant effect on student satisfaction to provide the best service and improve the quality of service to students. The accuracy of the services offered can also be seen from the feedback given by students on specific services and the extent to which the services provided align with student expectations. Unlike the results of testing the second hypothesis, namely, the image of the university does not mediate university facilities and student satisfaction with a p-value of 0.062 0.05, this finding is also under the previous hypothesis,

which states that university facilities do not have a significant relationship with student satisfaction. In addition, university image is also known to mediate between university services and student satisfaction, so efforts to improve campus image can also positively affect student satisfaction.

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