Quality of Administrative Services and Campus Infrastructure on Student Satisfaction with Student Loyalty as Intervening Variables at The Faculty of Administrative Science Universitas Brawijaya

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Abstract

Student satisfaction is important for some students besides student loyalty which can be influenced by several factors, one of which is the quality of service and infrastructure which students are also expected to create a good campus atmosphere. This study aims to determine whether the quality of service and infrastructure has an effect on student satisfaction through student loyalty at the Faculty of Administrative Sciences, Universitas Brawijaya Malang. This research method is a quantitative method using SPSS 22 for Windows. The type of data collection used is primary data in the form of data collected through filling out questionnaires distributed to 100 students using a research scale, namely the Likert scale. The data analysis used is path analysis, validity test, reliability test, classical assumption test, Sobel test, F test, and t test. The results of this study indicate that the value of t count (2.115 and 2.403) > t table (1.984), F arithmetic value (60.685 and 25.923) > F table (3.09). This means that either simultaneously or partially there is a significant influence on service quality and infrastructure has a direct influence on student satisfaction, service quality and infrastructure have a direct influence on student loyalty. Student loyalty as an intervening variable can mediate the indirect effect of service quality and infrastructure on student satisfaction.

Keywords: Administrative, Service Quality, Infrastructure, Satisfaction, Loyalty

INTRODUCTION

In the world of higher education, it can be seen as a place that provides services, while those referred to as service users or services are called consumers or customers. Changes in people's mindsets about the importance of education have an effect on people's interest in participating in higher education, the goal of students being the benchmark for a university in providing services to students. The best service must be able to be provided by the academic field in all aspects.

Loyalty is a positive view that is embedded in the minds of customers or students themselves towards a university. Building strong loyalty ideally is a collection of total experience to students so that the level of student satisfaction is greater to build student loyalty. The problems that have been faced by several faculties can affect student loyalty, which is caused by student dissatisfaction with Brawijaya University services, which can be seen from the following table.

<table>
<thead>
<tr>
<th>No</th>
<th>Faculty</th>
<th>Number of Student Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>faculty of Economics and Business</td>
<td>81</td>
</tr>
<tr>
<td>2.</td>
<td>Faculty of Administrative Sciences</td>
<td>20</td>
</tr>
<tr>
<td>3.</td>
<td>faculty of Humanities</td>
<td>79</td>
</tr>
<tr>
<td>4.</td>
<td>Faculty of Computer Science</td>
<td>26</td>
</tr>
<tr>
<td>5.</td>
<td>medical School</td>
<td>311</td>
</tr>
<tr>
<td>6.</td>
<td>Faculty of Veterinary Medicine</td>
<td>36</td>
</tr>
<tr>
<td>7.</td>
<td>Faculty of Mathematics and Natural Sciences</td>
<td>97</td>
</tr>
<tr>
<td>8.</td>
<td>faculty of Fisheries and Marine Science</td>
<td>656</td>
</tr>
<tr>
<td>9.</td>
<td>Faculty of Engineering</td>
<td>175</td>
</tr>
<tr>
<td>10.</td>
<td>Faculty of Agricultural Technology</td>
<td>45</td>
</tr>
</tbody>
</table>

Resource: 2021 Results | PIDK UB, (Data processed 04-01-2022).

From the data above, it can be seen that the administrative service division of the FIA directly deals with students, so that academic administrative services need to get more attention in order to provide satisfaction for students. Until now, it is often known that there
are still few complaints or problems felt by students.

Service quality is a measure of how the level of service provided is in accordance with customer needs and customer expectations which are however interrelated with customer satisfaction [1]. Community satisfaction on services provided by Universitas Brawijaya as a public service provider can be seen from public complaints. The following is the development of the number of public complaints regarding existing services for the past 7 years.

### Customer Survey Table

<table>
<thead>
<tr>
<th>Survey Value</th>
<th>Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>73.37</td>
<td>2015</td>
</tr>
<tr>
<td>74.95</td>
<td>2016</td>
</tr>
<tr>
<td>75.91</td>
<td>2017</td>
</tr>
<tr>
<td>78.24</td>
<td>2018</td>
</tr>
<tr>
<td>75.75</td>
<td>2019</td>
</tr>
<tr>
<td>76.84</td>
<td>2020</td>
</tr>
<tr>
<td>77.62</td>
<td>2021</td>
</tr>
</tbody>
</table>

**Resource:** 2019 Results PIDK UB, (Data processed 09-15-2021).

From the graph above, it can be seen that the number of complaints from the public using UB’s services for the implementation of services from year to year continues to change. For this reason, Universitas Brawijaya is trying to fix its services, which still leaves a lot of complaints and dissatisfaction. How much the components of administrative services, student administration and campus facilities and infrastructure have an influence on student satisfaction is not known for certain. The role of perceived social support for students is very important because if they get good social support it will affect the satisfaction of the student, so that the possibility of the student completing his studies becomes greater, on the contrary, if the student does not get good social support, it is likely that the student will experience stress. can affect the smoothness of his lectures, even in the worst case the student quits studying [2]. Student facilities in the form of existing facilities and infrastructure provided at the university, faculty, and study program level, can be calculated to meet standards according to the number of users. The need for facilities and infrastructure can be met through an external resources sharing mechanism, where the study program can take advantage of certain facilities and infrastructure owned by other parties outside the university, as long as there is adequate access for each user, public health centers, pharmacies, optics, industry, practice areas, gardens, forests, piers, ports, performance facilities, sports facilities, convention and exhibition facilities, places of worship, schools or madrasas, day care centers (TPA), teaching practice places other as well as facilities and infrastructure for recreation and creativity. The availability of access is still not owned by the Faculty of Administrative Sciences at Brawijaya University, Malang.

Therefore, this research will take the title Effect of the quality of administrative services, and campus infrastructure on student satisfaction with student loyalty as an Intervening variable, Faculty of Administrative Sciences, Universitas Brawijaya Malang.

**FORMULATION OF THE PROBLEM**

Based on the above background, the formulation of the problem posed is:

1. Does the service quality variable \( (X_1) \) have a positive effect on student satisfaction \( (Y) \)?
2. Does the variable of Facilities and Infrastructure \( (X_2) \) have a positive effect on Student Satisfaction \( (Y) \) ?
3. Does the Service Quality variable \( (X_1) \) have a positive effect on Student Loyalty \( (Z) \)?
4. Does the variable of Facilities and Infrastructure \( (X_2) \) have a positive effect on Student Loyalty \( (Z) \)?
5. Does Student Satisfaction \( (Y) \) have a positive effect on Student Loyalty \( (Z) \)?
6. Do the variables of Service Quality \( (X_1) \) and Infrastructure \( (X_2) \) have a positive effect on Student Satisfaction \( (Y) \) through Student Loyalty \( (Z) \) as Intervening variables?

**RESEARCH PURPOSES**

The aims of this research are as follows:

1. Knowing the Service Quality variable \( (X_1) \) has a positive effect on Student Satisfaction \( (Y) \).
2. Knowing the variables of Facilities and Infrastructure \( (X_2) \) have a positive effect on Student Satisfaction \( (Y) \).
3. Knowing the Service Quality variable \( (X_1) \) has a positive effect on Student Loyalty \( (Z) \).
4. Knowing the variables of Facilities and Infrastructure \( (X_2) \) have a positive effect on Student Loyalty \( (Z) \).
5. Knowing the Student Satisfaction variable (Y) has a positive effect on Student Loyalty (Z).
6. Knowing the Service Quality variable (X1) and the Infrastructure (X2) variable have a positive effect on Student Satisfaction (Y) through Student Loyalty (Z) as an Intervening variable.

**BENEFITS OF RESEARCH**
The benefits that the author hopes are:

1. **Theoretical Benefits**
   - Empirically, it is hoped that this research can be useful, including:
     - This research is expected to contribute theoretically in adding references related to student satisfaction and its relationship to the quality of services and infrastructure at Universitas Brawijaya.

2. **Practical Benefits**
   - **For Universitas Brawijaya**
     - The results of this study are expected to provide input for the University to determine appropriate steps in an effort to improve service quality and pay attention to the importance of facilities and infrastructure that can affect student satisfaction in performing administrative services at Brawijaya University. This research is also expected to be used as additional information that can be considered by the campus so that it can be used in determining future policies.
   - **For Researchers**
     - Analyze the problems that occur in the field regarding the level of student satisfaction and have an impact for the future so that the number of students is increasing.
   - **For Readers**
     - Reference source to develop further research.

**THEORETICAL REVIEW**

**Service Quality**

[4] the quality of service itself is determined by the company’s ability to meet customer needs and desires in accordance with customer expectations.

**Infrastructure**

[3] Whereas the purpose of facilities and infrastructure in general is to provide professional services in the field of educational facilities and infrastructure in the context of effective and efficient implementation of education.

**Student Satisfaction**

[2] Introducing the concept of student satisfaction or Student Satisfaction, which is a short-term behavior that results from an evaluation of educational services from the experiences they receive. Student Satisfaction is considered a very potential factor in creating long-term profits.

**Student Loyalty**

[5] Customer loyalty is something that helps companies to achieve long-term success, therefore in the context of marketing, customer loyalty is the main hope the company wants to achieve.

**RELATIONSHIP BETWEEN VARIABLES**

**Relationship of Service Quality to Student Satisfaction**

[1] Service quality is a customer or client assessment of the overall performance of an organization’s services and services. Primarily, service quality focuses on how to meet customer expectations. Since expectations are dynamic, evaluations can also change over time, from person to person and from culture to culture. In essence, service quality is measuring how the level of service provided is in accordance with customer needs and customer expectations which are however interrelated with customer satisfaction [1].

So it can be concluded that service quality is important and have a big influence on increasing student satisfaction.

**The Relationship of Infrastructure to Student Satisfaction**

[6] Facilities and infrastructure are part of higher education policies to improve education quality services. Therefore, it is necessary to manage facilities and infrastructure properly to create institutions or colleges that are comfortable, clean, neat, and beautiful and increase the enthusiasm of the academic atmosphere for students. Students as one of the targets of facilities and infrastructure services must be a priority for satisfaction with the use of existing facilities and infrastructure in higher education.

Therefore, it is necessary to think about the concepts in the management of facilities and infrastructure used so that users, students, lecturers, and employees get good satisfaction scores. There are various facilities and
infrastructure in higher education including adequate lecture rooms, laboratory, organizational space, adequate parking facilities, library, canteen, and internet facilities.

So it can be concluded that the infrastructure is very influential on student satisfaction if the infrastructure offered is good then students will feel satisfied.

The Relationship Between Infrastructure And Service Quality

[7] If the management or utilization of facilities and infrastructure is carried out quickly, accurately and completely, in accordance with the demands of the customer community, this will result in better service quality.

So it can be concluded that Infrastructure is very important which has a big influence on improving the quality of service.

Relationship between Service Quality and Loyalty

[8] Reveal that service quality will directly or indirectly lead to their concurrent purchase intention behavior. The results found that service quality had a direct effect on consumer behavioral intentions in four of the six industries tested, an indirect effect through satisfaction on loyalty in all industries studied. The results of another study show that service quality has a significant positive impact on loyalty. When a product or service exceeds consumer expectations, their repurchase intention will increase [8]. Excellent service quality contributes to the retention and loyalty [8].

[8] Found that service quality effect that experienced and committed by college student’s emotionally is the key that determined college student’s loyalty.

Student Satisfaction Relationship with Student Loyalty

Satisfaction is a customer’s overall attitude towards a service provider, or an emotional reaction to the difference between what customers expect and what they receive, in this case regarding the fulfillment of needs, goals, or desires. The importance of satisfying students to retain them, just as an organization needs customers, satisfying students is also important for retention strategies. If students are not satisfied, they can reduce the number of classes taken or even drop out of campus. Therefore, student satisfaction or dissatisfaction causes the intention to stay or stop which in turn causes retention or friction in students [8].

The Relationship Between Service Quality, Infrastructure, Student Satisfaction, and Student Loyalty.

In order to improve the quality of services in the service industry, continuous improvement is needed to be able to optimize managed service resources including labor, facilities, and other work environment factors which are the main assets for the organization and have a strategic role as facilities, infrastructure, tools and places to control activities. organization. A good work environment will support customer service and satisfaction. Where aspects that will affect customer satisfaction and make loyal customers are such as interaction, qualifications, financial affordability, environment, physical accessibility, adequate human resources, confidentiality, pricing, and socio-demographic characteristics [5].

RESEARCH METHODS
Types Of Research

The type of research conducted is quantitative research. This study aims to obtain evidence of causality between the variables consisting of Service Quality and Infrastructure on Student Satisfaction with Student Loyalty as an intervening variable.

Population

The population in this study used a population of 100 students from the Faculty of Administrative Sciences Universitas Brawijaya Malang consisting of several study programs and majors ranging from S1 to S2.

Sample

The determination of the number of samples using the formula [9] because the total population in this study is not known with certainty.

\[
\begin{align*}
   n &= \left(\frac{Z_{a/2} \cdot \sigma}{e}\right)^2 \\
   n &= \frac{(1.96)(0.25)}{0.05}^2 = 96.04
\end{align*}
\]

Information:

\(n\): Number of samples
\(Z_{a/2}\): Table Z value (the value obtained from the normal table on the level of confidence, where the 95% confidence level)
\(\sigma\): Population standard deviation (0.25 already stipulated)
Based on the above calculation, the number of samples used is 96.04 respondents. Then the number of samples was rounded up to 100 respondents.

Variable Operational Definition

The first operational definition is Service Quality (X1) [10]. There are 3 indicators: 1) responsiveness is the responsiveness of service providers to the expectations, desires, aspirations and demands of service users. with items of responsiveness, service providers, expectations, desires, service users. 2) Responsibility is a measure that shows how far the process of providing public services is carried out in accordance with correct administrative and organizational principles or provisions and has been determined with the item Provision of services, administration. And 3) accountability is a measure that shows how much the service delivery process is in accordance with the stakeholders and the norms that develop in society. with service provider items, interests.

The operational definition of the two variables means Infrastructure (X2) [11]. There are 5 indicators that 1) complete, ready to use at any time, strong and durable. with strong, durable items. 2) Neat, beautiful, clean, elegant, and beautiful so that it cools the views and feelings of anyone who enters the educational institution complex. with beautiful items, clean. 3) creative, innovative, responsive, and varied so that it can stimulate the imagination of students. with responsive items, varied 4) have a long time span through careful planning to avoid the tendency to dismantle buildings. with planning items, buildings. 5) have a special place for worship and the implementation of socio-religious activities, such as a prayer room or mosque. with items of social activities, prayer rooms or mosques. The third operational definition of Student Loyalty (Z) [12]. There are 2 indicators: 1) Retention, resistance to negative influences regarding Universitas Brawijaya. With resistance items, negative influence. 2) Referalls, totally referring to the existence of Universitas Brawijaya. With referencing items, existence. The operational definition of the fourth variable is Student Satisfaction (Y) [13] there are 5 indicators 1) Reliability, related to leadership policies, lecturer competencies and employee services in providing quality, consistent, and according to student needs . With quality service items, student needs. 2) Responsiveness, the willingness of school personnel to listen to and resolve student complaints or students related to college problems involving school problems. With student complaints items, college problems. 3) Certainty, which is a condition in which the institution or school provides guarantees of service certainty to students which cannot be separated from the ability of the institution or school personnel, especially leaders, lecturers and employees to create confidence and trust in the promises of higher education to students, in addition to services other. With items of service certainty, trust. 4) Empathy, is a mental state that makes a person feel himself in someone else's situation. Thus, the form of empathy of the institution or school towards the needs of students is the understanding of the institution's personnel towards the needs of students and working towards achieving it with the item understanding of personnel, student needs. 5) Tangible, in the world of education related to the physical aspects of schools needed to support the teaching and learning process, including: buildings, environmental cleanliness, parks, laboratories, libraries and others. With building items, environmental cleanliness.

Research Sites

The location of this research was conducted at Brawijaya University, Faculty of Administrative Sciences, on Jalan Veteran, Malang, East Java, Indonesia. The time of the research is from November 2021 to April 2022.

TEST (VALIDITY, RELIABILITY, T-TEST, F-TEST, CLASSICAL ASSUMPTIONS)

Validity Test

[14], the validity test is used to measure the validity of a questionnaire. A questionnaire is said to be valid if the questions on the questionnaire are able to reveal something that will be measured by the questionnaire.

Reliability Test

[15] reliability means being trustworthy, reliable. Based on this opinion, it can be concluded that it is said to be reliable if it is able to provide fixed or steady results even though it is done by anyone, anytime, and if used repeatedly gives the same measurement results.

T Test

[14] The F test is a test for the simultaneous hypothesis, which is to see the effect of all independent variables X (X1, X2, X3, ..., Xn) together on the Y variable.
F Test
[14] The F test is a test for the simultaneous hypothesis, which is to see the effect of all independent variables X (X1, X2, X3, ..., Xn) together on the Y variable.

CLASSIC ASSUMPTION TEST
Normality Test
[14] The Normality Test aims to test whether in a regression model, the confounding variable or residual has a normal distribution, as it is known that the t and F tests assume that the residual value follows the norm distribution.

Heteroskedasitisitas Test
[14] Heteroscedasticity test is to test whether in a regression model there is an inequality of variance from the residual of one observation to another observation. If the variance of the residuals is from one observation to another, it is called homoscedasticity and if the variance is different it is called heteroscedasticity. A good regression model is homoscedasticity or not heteroscedasticity.

Multicollinearity Test
[14] the multicollinearity test aims to test whether the regression model finds a correlation between the independent (independent) variables. A good regression model should not have a correlation between the independent variables. If the independent variables are correlated with each other, then these variables are not orthogonal.

TYPES OF DATA AND DATA COLLECTION TECHNIQUES
Primary Data
[16] Primary data is data collected by researchers directly from the first source. The advantages of primary data are that the data is more reliable, researchers get the latest data, but there are also disadvantages, namely it takes a long time, sometimes respondents are not willing to provide data and so on. The primary data in this study came from students of the Faculty of Administrative Sciences, Universitas Brawijaya.

Secondary Data
[16] Secondary data is documentation data, published data or data used by organizations. Examples of secondary data: research reports from previous researchers, printed books and so on. Secondary data obtained are usually obtained from libraries or reports that have been made by previous researchers.

Method Of Collecting Data
[17] Data collection can be done in various settings, various sources, and in various ways. Data collection can use primary sources, and secondary sources. When viewed in terms of data collection methods or techniques, data collection techniques can be carried out by interview (interview), questionnaire (questionnaire), observation (observation) and a combination of the three.

1. Questionnaire
[17] Questionnaire is a data collection technique that is done by giving a set of questions or written statements to respondents to answer. Questionnaires are an efficient data collection technique if the researcher knows with certainty the variables to be measured and knows what to expect from the respondents.

In this study, the questionnaire was distributed to students of the Faculty of Administrative Sciences, Universitas Brawijaya.

2. Interview
[17] Interviews are a data collection technique if the researcher wants to conduct a preliminary study to find problems that must be investigated, and also if the researcher wants to know things from respondents who are more in-depth in a small number of respondents.

In this study, interviews were conducted between the researchers and the students of the Faculty of Administrative Sciences, Universitas Brawijaya.

3. Observation
[17] Observation is a complex process, a process composed of various biological and psychological processes. In this study, observations were made to find out how many students of the Faculty of Administrative Sciences Universitas Brawijaya.

4. Documentation
[18] Documentation study is a data collection technique that is not directly aimed at the research subject, but through documents. Documents used can be in the form of diaries, personal letters, reports, meeting minutes, case notes in social work and other documents.

RESULTS AND DISCUSSION
Validity Test
It can be seen that all statement items are from variables X1,X2,Y,Z. has rcount rtable (sig 0.05 = 0.196). Based on the results of the validity
test that has been carried out, it shows that all of the items used are valid.

### Reliability Test

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cronbach’s Alpha</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Quality</td>
<td>0.742</td>
<td>Reliable</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>0.710</td>
<td>Reliable</td>
</tr>
<tr>
<td>Student satisfaction</td>
<td>0.731</td>
<td>Reliable</td>
</tr>
<tr>
<td>Student loyalty</td>
<td>0.662</td>
<td>Reliable</td>
</tr>
</tbody>
</table>

Resource: Processed from Primary Data, 2022.

The reliability test that has been carried out shows that all of the items used are reliable.

### T Test

#### Loyalty Variable t Dependent Test Result Table

<table>
<thead>
<tr>
<th>Model</th>
<th>t hitung</th>
<th>t tabel</th>
<th>Sig.</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Quality</td>
<td>8,965</td>
<td>1,98472</td>
<td>0.000</td>
<td>0.05</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>2,115</td>
<td>1,98472</td>
<td>0.037</td>
<td>0.05</td>
</tr>
</tbody>
</table>

Dependent Variable Loyalty

Resource: Processed from Primary Data, 2022.

T test on the dependent variable Student Loyalty that the value of t count > t table (8.965 > 1.98472) and the Sig value of 0.000 (< 0.05) for Service Quality (X1), for Infrastructure (X2) t count > t table (2.115 >1.98472) and Sig of 0.037 (<0.05). So it can be concluded that the variables of Service Quality (X1), Infrastructure (X2), Partially has a positive and significant effect on the variable Student Loyalty (Z) in the Faculty of Administrative Sciences.

#### Loyalty Variable t Dependent Test Result Table

<table>
<thead>
<tr>
<th>Model</th>
<th>t hitung</th>
<th>t tabel</th>
<th>Sig.</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service quality</td>
<td>2,403</td>
<td>1,98498</td>
<td>0.018</td>
<td>0.05</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>2,182</td>
<td>1,98498</td>
<td>0.032</td>
<td>0.05</td>
</tr>
<tr>
<td>Student Loyalty</td>
<td>2,933</td>
<td>1,98498</td>
<td>0.004</td>
<td>0.05</td>
</tr>
</tbody>
</table>

Dependent Variable Student Satisfaction

Resource: Processed from Primary Data, 2022.

The t-test on the dependent variable student satisfaction can be concluded that the t-count > t table (2.403>1.98498) and the Sig value of 0.0018 (<0.05) for Service Quality (X1), for Infrastructure (X2), t-count > t table (2.182>1.98498) and Sig of 0.032 (<0.05), for Student Loyalty (Z) t count> t table (2.933>1.98498) and Sig of 0.004 (<0.05). So it can be concluded that the variables of Service Quality (X1), Infrastructure (X2), and Student Loyalty (Z) partially have a positive and significant influence on the Student Satisfaction variable (Y) at the Faculty of Administrative Sciences Brawijaya.

### F Test

#### Table Loyalty Variable Dependent F Test Result

<table>
<thead>
<tr>
<th>Model</th>
<th>F hitung</th>
<th>F tabel</th>
<th>Sig</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>60.685</td>
<td>3.09</td>
<td>0.000</td>
<td>0.05</td>
</tr>
<tr>
<td>Residual</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dependent Variable Student Loyalty (Z)

Resource: Processed from Primary Data, 2022.

F test on the dependent variable Student Loyalty that the value of F count > F table (60.685> 3.09) and significant 0.000 (< 0.05) then H0 is rejected and Ha is accepted. It can be concluded that the variables of Service Quality (X1) and Infrastructure (X2), simultaneously has a positive and significant influence on Student Loyalty (Z) in the Faculty of Administrative Sciences.

#### Table of Test Results F Dependent Student Satisfaction Variable

<table>
<thead>
<tr>
<th>Model</th>
<th>F hitung</th>
<th>F tabel</th>
<th>Sig</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>25,923</td>
<td>3.09</td>
<td>0.000</td>
<td>0.05</td>
</tr>
<tr>
<td>Residual</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dependent Student Satisfaction Variable (Y)

Resource: Processed from Primary Data, 2022.

The F test on the dependent variable Student Satisfaction shows the value of F arithmetic 25.923> F table (> 3.09) and significant 0.000 (< 0.05), then H0 is rejected and Ha is accepted. It can be concluded that the variables of Service Quality (X1) and Infrastructure (X2), Student Loyalty (Z) simultaneously have a positive and significant influence on Student Satisfaction (Y) in the Faculty of Administrative Sciences.

### CLASSIC ASSUMPTION TEST

#### Normality Test

The normal plot graph shows that the distribution of the data points is around the diagonal line and the distribution follows the direction of the diagonal line, so the regression model fulfills the assumption of normality.

#### Heteroscedasticity Test

In the scatterplot graph, the dots spread randomly and do not show a clear pattern,
because the dots spread above and below the number (zero) on the Y axis.

### Multicollinearity Test

#### Loyalty Variable Multicollinearity Test Result Table

<table>
<thead>
<tr>
<th>Model</th>
<th>Collinearity Statistics</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tolerance</td>
<td>VIF</td>
</tr>
<tr>
<td>Service quality X1</td>
<td>0,828</td>
<td>1,207</td>
</tr>
<tr>
<td>Infrastructure X2</td>
<td>0,828</td>
<td>1,207</td>
</tr>
</tbody>
</table>

**a. Dependent Variable: Loyalty Z**

**Resource:** Processed from Primary Data, 2022.

From Table above, the results of the multicollinearity test, it is known that the VIF (Variance Inflation Factor) of the Variable Quality of Service X1 = 1,207 variable X2 Infrastructure Facilities = 1,207 which means that each variable has a VIF value of < 10 with a variable tolerance value of Service Quality X1 = 1,207 variables of Infrastructure X2 = 1,207. which means each variable has a tolerance value of >0.1. Thus, it can be concluded that all independent variables do not occur multicollinearity in this study so it will not interfere with each other.

### Multicollinearity Dependent Satisfaction Test Result Table

<table>
<thead>
<tr>
<th>Model</th>
<th>Collinearity Statistics</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tolerance</td>
<td>VIF</td>
</tr>
<tr>
<td>Service quality X1</td>
<td>0,453</td>
<td>2,207</td>
</tr>
<tr>
<td>Infrastructure X2</td>
<td>0,792</td>
<td>1,263</td>
</tr>
<tr>
<td>Loyalty Z</td>
<td>0,444</td>
<td>2,251</td>
</tr>
</tbody>
</table>

**a. Dependent Variable: Student Satisfaction_Y**

**Resource:** Processed from Primary Data, 2022.

From the table above, the results of the multicollinearity test, it is known that the VIF (Variance Inflation Factor) of the Variable Quality of Service X1 = 2,207 variables X2 Infrastructure Facilities = 1,263 and Student Loyalty Z = 2,251 which means that each variable has a value of VIF < 10 with a variable tolerance value of Service Quality X1 = 0.453 variables of Infrastructure X2 = 0.792 and the variable Loyalty Student Z = 0.444. which means each variable has a tolerance value of >0.1. Thus, it can be concluded that all independent variables do not occur multicollinearity in this study so it will not interfere with each other.

### CONCLUSION

From the results of research conducted on 100 respondents, student satisfaction and student loyalty have gone through a validity test to determine the level of validity of the research instrument and a reliability test to determine the level of reliability of the questionnaire so that if it is tried by doing research repeatedly in the same group it will produce the same data. After distributing questionnaires to 100 people in the respondents of the Faculty of Administrative Sciences, Universitas Brawijaya, the results of the instruments tested were valid and reliable.

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REFERENCES


