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# **SERVQUAL METHOD FOR MEASURING SERVICE QUALITY OF INFORMATION SYSTEM**

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**Abstract** - : Implementation of information systems is one of the support facilities for the performance of an Institution. Utilization of information system aims to facilitate the task of the user in order to achieve savings in time, cost, and resources in decision making. User Satisfaction of an information system is one of the factors or measures of success for the development and implementation of Information Systems at an Institution. This study analyzed the use of Information Systems service quality variables contained in the Service Quality method. Variables to be measured is variable tangibles, reliability, responsiveness, assurance and empathy towards Information System User Satisfaction. The results of this study showed that simultaneous or partially simultaneous or there is a significant and positive relationship between the variables in the study variables. While the regression analysis of the results obtained by the fact that the contribution of the five variables is 66.5% of the variable User Satisfaction Information System.

**Keywords:** ServQual Methode, Information System, User Satisfaction

## **I. INTRODUCTION**

The continued development of science and technology to provide a wide range of impact areas of human life. The development of information technology in this globalization era has brought changes to the lives of Peoples. Utilization of information technology providing various facilities to obtain information, to help finish the job and also provide maximum services to users of information technology.

Availability of current information technology has been widely utilized by agencies - both government agencies and private community. Even the individual use of information technology can be used to assist individuals in business. The increased use of information technology in helping the company's operations, is a very interesting problem to be studied. One of the Information Technology products are widely used by various agencies, both private, government or education and services are Information Systems. Use of Information Systems are very helpful in corporate operations. With this information system the data and the desired information within the company easier to obtain. Basically the information system is built as a support facility within an agency's performance. Use of the information system is intended to facilitate the task of the user in order to achieve savings in time, cost, and resources in decision making.

The quality dimension gives companies or agencies a framework to answer the question, what is needed by the user. The user looking for these quality dimensions. When the leaders of an agency or company planning task, they decided on a product or service to be offered intansi company. In this case, the leaders actually lead to the quality dimensions. Set of

quality of products or services specified are the leaders believed would best meet the customers' needs. So that eventually the company will be able to understand and share things providing the expectations and needs of its users.

The method used in this study is the method of Service Quality (SERVQUAL Method). Servqual method is a method of measuring the quality of service is most widely used because of the high frequency of use. Service quality needs to be measured for at least three reasons, namely: (1). The measurement results can be used to perform a comparison between before and after the change in an organization. (2). Measurements required to find out where problems associated with quality. (3). The results of measurements are required to establish quality of service standards.

## **II. THEORY**

### **2.1. SERVICES QUALITY OF INFORMATION SYSTEM**

The simplest definition of-quality is conformance to user specifications. The Basic idea of quality not meet the set criteria of an agency, otherwise the quality is meeting the criteria set by the user or customer. The key to achieving quality is someone knows who the user is and what he wants. The quality is not determined by the attributes or dimensions of a product or service, but is determined by multiple attributes.

David Gravin introduce the subject of the quality of the product applied to the information systems and has identified eight different dimensions [1]. The dimensions consist of: Performance, Feature,

Reliability, Compatibility, Durability, Ease of Repair, Beauty, Perception of Quality. The subject of quality is applied to the service quality of information systems should be able to identify a list of quality dimensions, as follows: Tangible, Reliability, Responsiveness, Assurance, and Empathy.[2]

**2.2. SERVQUAL METHOD**

According to Quality of Service needs to be measured for at least three reasons, namely:

1. The measurement results can be used to perform a comparison between before and after the change in an organization.
2. Measurements required to find out where problems associated with quality.
3. Results of measurements required to establish quality of service standards. Servqual method is a method of measuring the quality of service is most widely used because of the high frequency of use. [4]

Meanwhile, according to suggests that the method is deemed eligible servqual statistical validity.[3]

**2.3. STEP OF INFORMATION SYSTEM SERVICE QUALITY MEASUREMENT METHOD USING SERVQUAL.**

There are several steps to carry out the measurement of information systems service quality using SERVQUAL method, namely:

1. Determine the variables and dimensions to be measured.
2. Creating and spreading questioner
3. Data Processing questioner of results.
4. Analyzing the data processing from questioner results.

Determination of the value of this result is based on the gap between expectations and satisfaction received.

**2.4. RESEARCH DESIGN**

The research design used was a causal design that aims to look at the effect of independent variables on the dependent variable. In this study the independent variables consisting of Tengibles (X1), Reliability (X2), Responsiveness (X3), Assurance (X4) and Emphaty (X5) and the dependent variable of this research proposal is Information System User Satisfaction (Y). We assess the influence of variables X1, X2, X3, X4 and X5 to variable Y partially and simultaneously.

The population in this study student private university in the city of Palembang who are users of the Academic Information System used at each university. While the study sample was determined by purposive sampling technique, sampling technique that is based on certain considerations [5]. Students use academic information system as a facility or means of carrying out the lecture. Samples taken in this study are numbered 400 respondents consisting of

students that uses multiple Academic Information Systems Private Colleges in the city of Palembang.

**III. RESULTS AND DISCUSSION**

**3.1. Characteristics of Respondents**

Characteristics of respondents in this study are based on sex and based on the status of the respondent.

**Table 1 Gender Distribution Table**

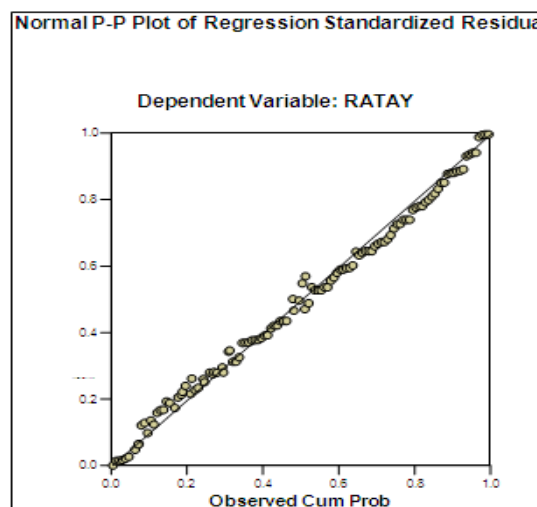
Gender	Number	Percentage
Male	179	45
Female	221	55
Total	400	100

**3.2. Multiple Regression Analysis Test**

In multiple linear regression analysis, there are three multiple regression test requirements that must be met, namely the normality test, heterokedasitas test and autocorrelation test.

a. Normality Test

The purpose of the normality test is to determine whether the regression model, the dependent variable (Y) and the independent variables (X1, X2, X3, X4 and X5) both have a normal distribution or not.



**Figure 1. Normality Test**

In this study the data were normally distributed in the regression model can be seen in the graph of normal PP plot, where the points are spread around the diagonal line and its distribution follows the direction of the diagonal line so that said normal distribution.

b. Heterokedastisitas Test

Heterokedasitas testing aims to determine whether the regression model of the residual variance occurs inequality observation to other observations

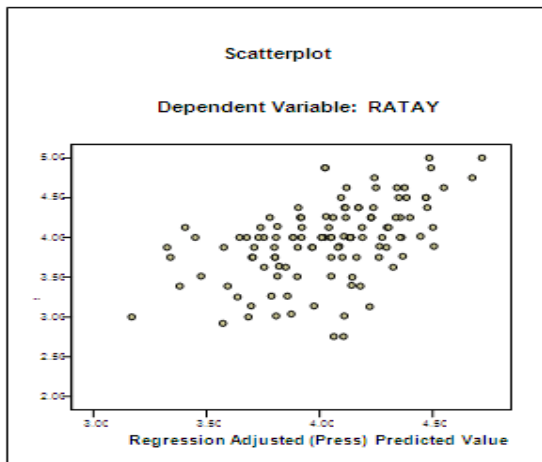


Figure 2. Heterokedasitas Test

In this study, shown by the graph scatterplot dots spread randomly and spread the data well above and below the number 0 on the Y axis, this can be interpreted not occur heterokedasitas the regression model.

c. Autocorrelation Test

Autocorrelation testing aims to determine whether there is a correlation between the error disturbance in period t with an error in period t-1. Testing autocorrelation in this study can be seen from the number of Durbin Watson with value 1.589. Durbin watson numbers between -2 to +2 means no autocorrelation.

Tabel 2. Autocorrelation Test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.697 <sup>a</sup>	.567	.672	.56271	1.589

- a. Predictors : (Constant), RATA X1, RATA X2, RATA X3, RATA X4, RATA X5
- b. Dependent Variable : RATA Y

3.3. Regression Test

The following table shows the results of multiple linear regression in this study.

Tabel 3. Linier Regression Test

Model	B	T	Sig
1 (constant)	.288	4.667	.003
Rata X1	.281	5.181	.001
Rata X2	.060	3.271	.007
Rata X3	.161	7.332	.003
Rata X4	.112	5.285	.000
Rata X5	.906	10.120	.000

- a. Dependent Variable: Rata Y

Regression Test Results may show the influence of the variables between the variables in the study.

3.4. Correlation Test

Correlation test is a test that aims to find the relationship and prove the hypothesis of a relationship between variables. Partial correlations were used to analyze the influence of the independent variables with the dependent variable.

Table 4. Correlation Test

No.	Variable	R-Square
1.	X1 to Y	0,158
2.	X2 to Y	0,242
3.	X3 to Y	0,285
4.	X4 to Y	0,176
5.	X5 to Y	0,141
6.	X1, X2, X3, X4, X5 to Y	0,665

3.5 DISCUSSION

Multiple linear regression obtained from the processing of the data in this study obtained linear equation as follows:

$$Y = 0.288 + 0.281X1 + 0.060X2 + 0.161X3 + 0.112X4 + 0.906X5$$

From these functions, it can be explained that: every one-unit change scores on the variable X or Independent variables will mislead the change of scores or values measurement results on each independent variable to variable Y or Dependent variables. While the positive sign of each measurement results explained that the change is in the direction of the two variables (xX variable to variable Y).

The fifth contribution of independent variables on Information Systems User Satisfaction in this study was 66.5%. The remaining 33.5% User Satisfaction Information Systems used in academic activities at several Private Universities Students in Palembang influenced by other things that are not investigated in this research.

IV. CONCLUSION

Based on the results of the discussion and analysis that has been carried out and in accordance with the intent and purpose of the study, it is concluded as follows:

1. The correlation test results, obtained by the fact that there is a positive and significant relationship between the five independent variables, namely Tangibles, Reliability, Responsiveness, Assurance and empathy towards satisfaction of users who used student information system in Academic Activities at several Private Universities in Palembang, either partially or simultaneous.
2. The Contributions of variables Tangibles, Reliability, Responsiveness, Assurance and empathy in improving the User Experience in Information Systems Student Academic activities, are respectively 15.8%, 24.2%, 28.5%, 17.6% and 14.1%.

3. The Contributions of three independent variables on Information Systems User Satisfaction increase associated with service quality information system for students in their academic activities amounted to 66.5%.

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