Implementation of the Academic Information System (SIAKAD) and the Quality of Academic Services on User Satisfaction mediated Decision Making (Case Study on 3 PTS in Pekalongan Residency Area)

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Abstract. This research intends to determine the effect of the implementation of academic information systems and the quality of academic services on user satisfaction mediated by decision making. The sample of respondents in this research was 155 respondents with an error rate of 5%. Testing the data in this research using validity tests, reliability tests, and multiple linear regression tests using the SPSS version 19 program. The development of information technology that is rapidly growing has a positive impact on organizations or companies such as universities, the existence of an academic information system can help students' users in making decisions, especially in the academic field. In order to achieve the expected goals, the academic information system needs to be evaluated on the implementation of the system and the quality of services provided by the campus to its users. The existence of an evaluation of academic information systems and service quality will have an impact on user satisfaction, this has become a phenomenon in research conducted by researchers. The result of this research is that the user satisfaction variable does not mediate the academic information system (SIAKAD) variable on decision making, but the user satisfaction variable mediates the effect of service quality on decision making.

Keywords: SIAKAD, Quality, Service, Satisfaction, Decision Making

1. INTRODUCTION

Services provided by organizations or companies to users or consumers are things that need to be considered properly and have an important role for the performance of the organization or company. A well-managed service will have a positive impact on the organization or company, even if it is not managed properly, the quality of the existing organization or company will decrease, for example, if many users or consumers submit a lot of complaints about the quality of services provided then indirectly will directly have a negative impact and the satisfaction of the user or consumer will decrease indirectly they will take a decision to use the product or service offered by the organization or company or leave it. Seeing these conditions, decision

makers, namely leaders, must be able to manage and implement a service system with good quality and have a high level of optimization.

Along with the development of information systems and information technology that is growing rapidly and becomes a very important factor in supporting everyday life, both social and professional life, human resources must be able to master it. Information systems and information technology have very important roles such as strategic roles, decision making and can be used to support effectiveness, efficiency and work productivity in organizations and companies.

Reinforced by statements from Briggs et al. (Rakhmadian et al., 2017) said that information systems are said to be successful for users if they can improve individual performance, while for managers reducing expenses is an important point in the success of information systems. An indicator of the success of an information system is user satisfaction related to the recipient's response to the use of information system output. This level of satisfaction ultimately leads to an increase in the efficiency and effectiveness of the users of the implemented information system.

While in the university environment, information systems and information technology are needed in their activities. Academic information system is a solution to facilitate or support the performance of universities. However, in the use of academic information systems, there are problems that are faced and felt by both the administrator of the academic information system in this case universities and users in this case students and lecturers. For example, the number of processing transaction data that is carried out in a short time such as student attendance data, student grades, lecture schedules and teaching journals, resulting in trouble on the network and requires time to make improvements so that the data transaction process is hampered. If this problem cannot be resolved quickly, it will have an impact on decreasing the performance of the organization. This is reinforced by research conducted by Rahman Tanjung (Tanjung, 2020) that program evaluation needs to be carried out in order to overcome the obstacles faced so as to improve the quality of higher education as a whole.

The purpose of making an academic information system in higher education is to assist and support the implementation of education so that in the process of educational activities good information services can be provided to users of the system, namely students and lecturers. To improve the service quality of this academic information system, it is necessary to evaluate, to find out whether the SIAKAD is acceptable to users or vice versa.

Several researches related to the implementation of information systems include research from Pradikto (2008) examining the impact of the quality of information

products on job satisfaction of users of financial information systems at the Yogyakarta City Regional Financial Management Agency. The number of respondents is 120 people. The result is that the quality of information products on the level of job satisfaction someone in an organization and research conducted by Jumaili (2005) concluded that trust in new information systems and new information technology on improving individual performance shows positive results, meaning that the addition of the trust variable to the new information system further increases the performance of individual users (Dwitayanti, 2015). The same thing was expressed by Miftah et al. in his research concluded that the quality of information has a significant effect both individually and collectively, the quality of information is a variable that has a dominant influence on user satisfaction of academic information systems at IKIP Budi Utomo Malang (Rakhmadian et al., 2017).

This research aims to determine the effect of the implementation of the academic information system (SIAKAD) and the quality of academic services on user satisfaction mediated by decision making at 3 PTS in the Pekalongan Karisidenan Region, namely Pusmanu Polytechnic, ITS NU Pekalongan and Selamat Sri University.

2. LITERATUR REVIEW

2.1 Academic Information System (SIAKAD)

An information system is any organized combination of people, hardware, software, computer networks and data communications and databases that collects, transforms and disseminates information in an organizational form. An example of application in the world of education is the website-based academic information system (SIAKAD) (Indera & Prihatin, 2017). SIAKAD is a tool to support the implementation of education in education units and is used to deliver quality management programs to the entire academic community and stakeholders based on information and communication technology such as the internet, local area networks so that educational units can provide good, effective and efficient academic services including services. academic at a university and carry out a process of academic activities involving students, lecturers, academic administration, finance and other attribute data (Anwar, 2016). To find out the satisfaction of SIAKAD users, it is necessary to evaluate the system. Therefore, to measure the quality of the SIAKAD system, it is necessary to pay attention to the indicators of the quality of the information system, including (Trinor Hayati et al., 2018): flexibility, ease of use, system reliability, accurate, timely, relevant.

2.2 Service Quality

Service quality is a central point for companies because it can affect customer satisfaction. The emergence of satisfaction means that the services provided are

categorized as good. According to Tjiptono, service quality is a measure of how well the level of service provided is able to match customer expectations (Mulyapradana and Lazulfa, 2018). According to A.S. Moenir said that service is an activity carried out by a person or group with a certain basis where the level of satisfaction can only be felt by the person serving or being served, depending on the ability of the service provider to meet user expectations (Trinor Hayati et al., 2018). The indicators of service quality dimensions are as follows (Mulyapradana et al., 2020): appearance, reliability, responsiveness, assurance, empathy.

2.3 User Satisfaction

Kotler and Keller say that satisfaction is a feeling of pleasure or disappointment that a person has due to comparing the performance of a product to their expectations (Mulyapradana et al., 2020). User satisfaction is the most widely used measurement to measure the success of an information system, this is because if the user is satisfied in using the information system, the system is considered successful (Rakhmadian et al., 2017). To measure user satisfaction with the implementation of information systems is the End-user Computing Satisfication (EUCS) model developed by Doll and Torkzades (Jati, 2015) these factors are content, ease of use, form, accuracy and timeliness.

2.4 Decision-making

According to Syafaruddin and Anzizhan (Tukino, 2014) suggesting that decision making is the process of choosing a series/action between two kinds of alternatives that exist in order to achieve a solution to a particular problem. There are five elements of decision making according to Terry (Lipursari, 2013) including intuition (feelings), experience, facts, authority and rationality. There are nine stages in decision making (Ivancevich et al., 2006) including (1) setting specific targets and goals and measuring results, (2) identifying problems, (3) setting priorities, (4) considering the causes of problems, (5) developing alternative solutions, (6) evaluating alternative solutions, (7) selecting solutions, (8) implementation and (9) follow-up.

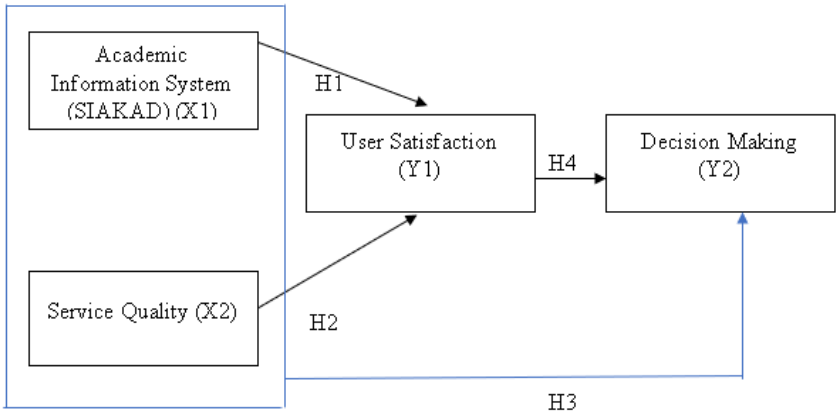
Table 1. Indicator Research

Variables	Indicator
Academic Information System (SIAKAD) (X1)	1. Flexibility 2. Ease of Use 3. System Reliability

Variables	Indicator
	4. Accurate 5. On time 6. Relevant
Service Quality (X2)	1. Tangible 2. Reliability 3. Responsiveness 4. Assurance 5. Empathy
User Satisfaction (Y1)	1. Fill 2. Ease of use 3. Shape 4. Accuracy 5. Punctuality
Decision Making (Y2)	1. Intuition (feeling), 2. Experience 3. Facts 4. Authority 5. Rational.

3. METHODOLOGY

Respondents in this research were 155 respondents with an error rate of 5% while the object of this research were users of the Academic Information System (SIAKAD) at 3 PTS in the Karisidenan Pekalongan area, namely Pusmanu Polytechnic, ITS NU Pekalongan and Selamat Sri University. Quantitative methods were used in this research and the research data processing used SPSS version 19. In determining the sample in this research, probability sampling was used by simple random sampling or the sampling of sample members and the population was carried out randomly without regard to the strata in the population (Misno et al., 2021). To test the research data using validity test, reliability test and multiple linear regression test. The independent variables in this research are the implementation of the academic information system (SIAKAD) (X1) and the quality of academic services (X2), while the dependent variable is user satisfaction (Y1) mediated by decision making (Y2).



Picture 1. Framework Reseacrh

The hypotheses in this research include:

H1: The implementation of the academic information system (SIAKAD) has a positive effect on user satisfaction.

H2: Academic service quality has a positive influence on user satisfaction

H3: Academic information system implementation and academic service quality have a positive influence on decision making

H4: User satisfaction has a positive influence on decision making.

4. RESULTS AND DISCUSSION

The number of respondents in this study amounted to 155 respondents with gender categories as follows male 49 respondents (31.6%) and female 106 respondents (68.4%). The following are the results of this research data analysis;

Validity and Reliability Test

Table 2. Validity and Reliability Test

Variable	KMO	Sig.	Item	Component Matrix	Cronbach's Alpha	Cronbach's Alpha if Item	Description
Academic Information System/SIAKAD (X1)	0,666	0,000	X1.1	0,709	0,814	0,791	Valid & Reliable
			X1.2	0,784		0,766	Valid & Reliable
			X1.3	0,843		0,749	Valid & Reliable
			X1.4	0,615		0,808	Valid & Reliable
			X1.5	0,761		0,775	Valid & Reliable
			X1.6	0,590		0,812	Valid & Reliable

Variable	KMO	Sig.	Item	Component Matrix	Cronbach's Alpha	Cronbach's Alpha if Item	Description
Service Quality (X2)	0,729	0,000	X2.1	0,657	0,825	0,823	Valid & Reliable
			X2.2	0,813		0,786	Valid & Reliable
			X2.3	0,862		0,757	Valid & Reliable
			X2.4	0,731		0,806	Valid & Reliable
			X2.5	0,826		0,775	Valid & Reliable
User Satisfaction (Y1)	0,870	0,000	X3.1	0,819	0,896	0,881	Valid & Reliable
			X3.2	0,839		0,876	Valid & Reliable
			X3.3	0,839		0,877	Valid & Reliable
			X3.4	0,896		0,857	Valid & Reliable
			X3.5	0,831		0,878	Valid & Reliable
Decision-making (Y2)	0,857	0,000	Y2.1	0,833	0,899	0,879	Valid & Reliable
			Y2.2	0,824		0,885	Valid & Reliable
			Y2.3	0,847		0,878	Valid & Reliable
			Y2.4	0,849		0,876	Valid & Reliable
			Y2.5	0,887		0,863	Valid & Reliable

Source: Processed primary data

From the table above, all research variables show that the KMO value is greater than 0.5 and the sign value is less than 0.05, meaning that the data meets the adequacy of the sample, so all the variables of this study are said to be valid. The value of the Component Matrix table for each indicator has a value above 0.4, so each question item value deserves to be included in the next test. Then in the reliability table, the value of Crombach's alpha on all research variables is more than 0.7, meaning that the data is reliable, while the table of total statistical items, the value of each item is below the total Crombach's alpha value, so all the items in the questionnaire variable in this study are reliable and consistent.

Multiple Regression Analysis

Table 3. Multiple Regression Analysis

Model	Adjusted R Square	Uji F		Uji t			Description
		F	Sig.	Stand. coef	Sig.	t_{hitung}	
Model I	0,779	271,831	0,000				
academic information system on user satisfaction				0,244	0,000	4,783	Accepted
academic service quality on user satisfaction				0,702	0,000	13,750	Accepted
Model II	0,653	142,799	0,000				Accepted
academic information system and academic service quality on decision making				0,434	0,000	6,754	Accepted
Model III	0,562	196,474	0,000				Accepted
user satisfaction with decision making				0,750	0,000	14,017	Accepted

Source: Processed primary data

The results of the table values above show that:

1. Academic information system variables and service quality have a positive coefficient value. This means that the better the academic information system and service quality, the higher user satisfaction.
2. Academic information system variables and service quality together have a positive coefficient value. This means that the better the academic information system and the quality of service together, the wiser decision making will be.
3. Variable User satisfaction variable has a positive coefficient value. This means that the more user satisfaction, the wiser decision making will be.

Model Testing

F Uji test

The F test is used to determine the effect of the independent variables together on the dependent variable. The results of the F test can be seen in the following table:

Table 4. F Uji Test

Model	f-count	Sig.
Equality 1	271,831	0,000
Equality 2	142,799	0,000

Equality 3	196,474	0,000

Source: Processed primary data

The table above shows that the F-count value in model 1 is 271.831 with a significance value of 0.000. This means that academic information systems and service quality together affect user satisfaction. In model 2, the F-count value is 142.799 with a significance value of 0.003. This means that academic information systems and service quality together affect decision making. In model 3, the F-count value is 196.474 with a significance value of 0.000. This means that user satisfaction jointly affects decision making.

Determination Test (R2)

The coefficient of determination essentially measures how far the independent variable (X) is able to explain the dependent variable (Y). The results of the calculation of the coefficient of determination can be seen in the following table:

Table 5. Determination Test

Model	Adjusted R^2
Equality 1	0,779
Equality 2	0,653
Equality 3	0,562

Source: Processed primary data

The table above can be seen from the results of the calculation of the coefficient of determination, in model 1 the adjusted R2 value is 0.779. This means that the variables of academic information systems and service quality are able to explain the user satisfaction variable 77% and 23% are influenced by other variables. In model 2, the adjusted R2 value is 0.653. This means that the variables of academic information systems and service quality are able to explain the decision-making variables by 65% and 35% are influenced by other variables. Then in model 3, the adjusted R2 value is 0.562. This means that the user satisfaction variable is able to explain the decision-making variable by 56% and 44% is influenced by other variables.

Hypothesis Testing

Hypothesis Testing 1

Based on the test, it shows that the academic information system variable has a t-count value of 4.783 and a significance value of 0.000. Because the significance value is less than 0.05, the academic information system variable has a positive and significant effect on user satisfaction, thus hypothesis 1 can be accepted.

Hypothesis Testing 2

Based on the test shows that the service quality variable has a t-count value of 13.750 and a significance value of 0.000. Because the significance value is less than 0.05, the service quality variable has a positive and significant effect on user satisfaction, thus hypothesis 2 can be accepted.

Hypothesis Testing 3

Based on the test, it shows that the academic information system and service quality together have a t-count value of 6.754 and a significance value of 0.000. Because the significance value is less than 0.05, the academic information system variables and service quality are jointly positive and significant in decision making, thus hypothesis 3 can be accepted.

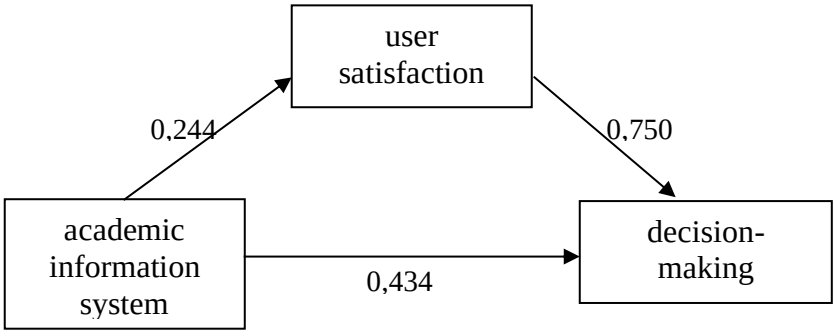
Hypothesis Testing 4

Based on the test, it shows that the user satisfaction variable has a t-count value of 14.017 and a significance value of 0.000. Because the significance value is less than 0.05, the user satisfaction variable has a positive and significant effect on decision making, thus hypothesis 4 can be accepted.

Mediation Effect Test

This test is to find out whether the user satisfaction variable mediates or not on the relationship between the variables of academic information system implementation, service quality and decision making.

1. User satisfaction mediates academic information systems on decision making

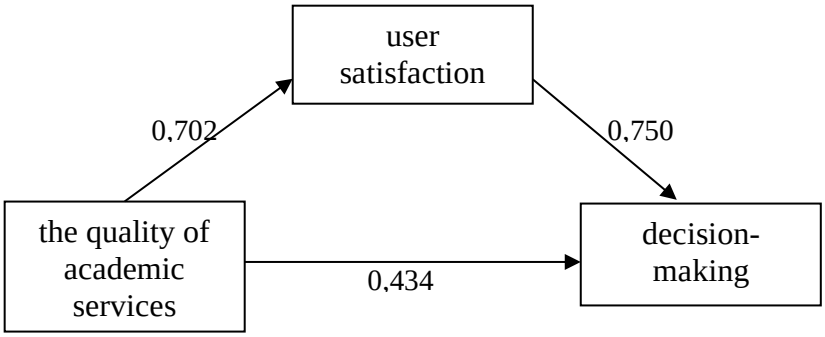


Picture 2. Model 2

The picture above shows the results of the mediation test, which is the product of the coefficient value of the academic information system on user satisfaction and the academic information system on decision making (0.244 x 0.750 = 0.183). The results of these calculations that user satisfaction does not mediate academic information systems on decision making. This means that the direct influence of

academic information systems on decision making is higher than the influence of academic information systems on decision making through user satisfaction.

2. User satisfaction mediates the quality of academic services on decision making



Picture 3. Model 3

The picture above shows the results of the mediation test, where the product of the service quality coefficient value on user satisfaction and the service quality coefficient value on decision making (0.702 x 0.750 = 0.526). The results of these calculations that user satisfaction mediates the effect of service quality on decision making. This means that the direct influence of academic service quality on decision making is lower than the influence of service quality on decision making through user satisfaction.

5. CONCLUSION

Based on the results of the analysis of academic information systems and service quality on Decision Making Mediated by user satisfaction, it can be concluded that hypotheses 1 to 4 are acceptable. Through the mediation test, the user satisfaction variable was proven not to mediate the academic information system variable on the decision-making variable, but the user satisfaction variable mediates the influence of the academic service quality on decision making. The development of existing academic information systems is better, but the Siakad Dainggap program has not been able to improve campus performance to be more optimal. The quality of academic services is considered good if there are obstacles, but the appearance of the service is

considered not yet attractive. Accuracy in delivering the final results of academic grades can increase user satisfaction, but the content in the delivery of information is considered incomplete and detailed. Then the data that is delivered very rationally can improve performance in decision making, but updating the data is considered not able to improve the quality in making decisions. Then suggestions for universities are to optimize the Siakad, a more attractive appearance to improve the quality of academic services, to be more detailed in presenting information to increase user satisfaction and to always update data in real time.

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