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MEASURING USABILITY OF ACADEMIC INFORMATION SYSTEM USING USE QUESTIONNAIRE : CASE STUDY OF PADANG STATE POLYTECHNIC

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ABSTRACT

The development of website-based information technology has been utilized by the Padang State Polytechnic using the Academic Information System for students. The Academic Information System contains academic information related to majors and students. The purpose of this study is the use of academic information systems by measuring the level of user satisfaction using USE Questionnaire. This study will empirically prove the effect of the independent variables, namely usability, ease of use, and ease of learning on user satisfaction as dependent variable. The data was gathered from 265 respondents and processed it using IBM SPSS version 25 software. This study used multiple linear regression analyses for hypothetical testing. The results indicate that usefulness and ease of use have significant effects on user satisfaction, while the ease of learning has no significant effect on user satisfaction.

INTRODUCTION

Background

At this time technology continues to improve and has a major impact on all aspects of life. Technology is a tangible or intangible facility and infrastructure that has brought comfort or convenience to human life. Technologies that we can encounter include information technology, communication, food, construction, education, medical, and so on. All of these technologies are able to help

humans in every task to be more effective and efficient.

One of the positive impacts felt due to technological developments is on information technology, especially the world of education. Information technology has been applied from school to university levels, such as the use of information networks that have proven benefits for many interested parties.

Padang State Polytechnic (PNP) is one of the universities that has used a lot of website-based information technology. This is one of PNP's efforts in providing information services to students and the academic community in order to facilitate academic, financial, administrative, and other activities. Academic information system is a software used to process academic data of educational institutions (Paramitha & Utami, 2020). One of the information systems used by PNP students is the PNP Academic Information System (SIAK). With SIAK PNP students can get all information related to student data such as personal data, lecture activities, Field Work Practices, Final Projects, and tuition bills. SIAK PNP also includes information related to pre-college, lectures, and post-lectures such as class information, lecturers, courses, scholarships, alumni, department data, warning letters, student semester reports, as well as other general data in the form of scholarship lists, study program data, courses, selection paths. , and curriculum.

The existence of SIAK PNP is one of the conveniences given to students to still be able to access the academic information needed without being bound by time and place. This convenience has been increasingly felt since the Covid-19 pandemic which requires almost all student activities to be carried out online.

Academic information systems that have been used by universities will be better if an evaluation is carried out. The system can be said to be good if it has good usability. According to Galih (2018), a site has good usability if the user is able to operate intuitively, helps work quickly, is easy to use, and is efficient. On the other hand, sites with poor usability cannot help users fulfill their needs. This can happen because the website is too complex, has many errors, and is difficult to learn, so that users do not like its use. Meanwhile, according to Sudharmono & Gupron (2018), good usability is if failures in its use can be eliminated or minimized and provide benefits and satisfaction to users. According to ISO (1998), *usability* measure the extent to which a software can be used by users to achieve certain goals that have effectiveness, efficiency, and satisfaction in the context of usability.

There is a set of questionnaires that have been designed to measure the three dimensions of the usability aspect of a system. The questionnaire collection is about the USE Questionnaire. The USE questionnaire was designed by Lund (2001) which consists of 30 statements and includes empathy variables, including usability, ease of use, ease of learning and user satisfaction.

The evaluation on the usability aspect of SIAK PNP was carried out to find out how the user experience was, namely by showing the ease and efficiency of using the system. With this usability measurement, system deficiencies will be identified, so that improvements can be made.

There are several previous research that have been carried out, but still have different result. Previous research conducted by Kasih & Delianti (2020), shows the result that usefulness, ease of use, and ease of learning has an effect on user satisfaction. Meanwhile, rea conducted by several other researchers showed contradictory results. First, research conducted by Affandi (2018), shows the result that the usefulness variable has no effect on user satisfaction. Second, research conducted by Sahfitri & Ulfa (2015), shows the result that the ease of use variable has no effect on user satisfaction. Third, research conducted by

Kusuma et al. (2016), shows the result that the ease of learning variable has no effect on user satisfaction.

This study aims to measure the response of users of the PNP Academic Information System (SIAK) by testing the usability aspect of the system and analyzing the effect of the independent variables (usefulness, ease of use, and ease of learning) on the dependent variable, namely user satisfaction either partially or simultaneously.

Research Purposes

This study examines the factors that affect the satisfaction of SIAK PNP users. The objectives and benefits to be achieved from this research are:

1. Finding empirical evidence of the effect of usefulness on user satisfaction of SIAK PNP.
2. Finding empirical evidence of the effect of ease of use on user satisfaction of SIAK PNP.
3. Finding empirical evidence of the effect of use of learning on user satisfaction of SIAK PNP.
4. Provide recommendations for improvement to Padang State Polytechnic in increasing usability.

Research Contribution

This research has contributed to several parties. The contributions given in this research are as follows:

1. Theoretical Benefits
   The results of this study are expected to be able to increase understanding of the development of information technology in companies, organizations, and institutions in the usability aspect.
2. Practitioner Benefits
   This research can be used as a reference for the campus in re-evaluating the quality of the PNP academic information system (SIAK).

LITERATURE REVIEW

Usabillity

According to Pratiwi & Suprihatin (2020), usability is the use value of a product. If the usability level is high, the system will be easier and comfortable to use. The use of information systems has been widely used in everyday life, but not all information systems have gone through *usability* testing because it is still considered not a major need in the development of a system (Kusuma et al., 2016).

The study *of usability* of this system is included in the field of multi-disciplinary science Human Computer *Interaction* (HCI). Nugroho (2009: 2) states that HCI is a field of science that studies the design of computer screen displays in an information system application, so as to provide convenience for users.

There are several definitions of usability, including the following:

1. According to the third edition of the Big Indonesian Dictionary (2002:375) it is stated that usability means benefit, benefit.
2. According toISO 9241:11 (1998), usability means measuring the extent to which a software can be used by users to achieve certain goals that have effectiveness, efficiency, and satisfaction in the context of usability.
3. According to Paramitha & Utami (2020), usability is a user experience in interacting with an application or website so that users can use it easily and quickly.
4. According to Nielsen (2012), usability is a quality analysis by looking at how easy it is for users to use the interface of an application.

Definition of usability based on ISO 9241:11 (1998) The above will be used as a theory in this study because it has explained how to identify information that needs to be taken into account when evaluating the usability of a system.

According to ISO 9241:11 (1998), usability is measured in three measurement components including:

1. **Effectiveness**
   Effectiveness shows how well the user is able to achieve the goals of using the system and the completeness it obtains.
2. **Efficiency**
   Efficiency refers to the resources the user expends to achieve the accuracy and completeness of the objectives.
3. **Satisfaction (user satisfaction)**
   Satisfaction indicates freedom from discomfort, and the positive attitude that users give to the use of the system.

Academic Information System

An academic information system is a system that processes academic information data, including student data, lecturers, achievement records, curriculum, filling out Study Plan Cards (KRS), lecture schedules, and printing KRS (Sutabri & Natipulu, 2018).

According to Aswati et al. (2015), academic information system is a solution that is often used to manage academic data of educational institutions in Indonesia. In addition to helping data management, information systems can also reduce operational costs that must be incurred by educational institutions.

Academic information systems have benefits for several parties such as students and leaders or decision makers. The academic information system will be compiled from several data that are managed and processed automatically using tools and methods, so as to produce the information needed for the proper implementation of academic activities. (Etin Indrayani, 2011). For students, academic information systems are used to obtain information related to all lecture activities. As for leaders or decision makers, the information contained in the system is used to produce reports in various fields of activity such as academics, finance, personnel, student distribution, and so on.

Padang State Polytechnic Academic Information System (SIAK PNP)

SIAK PNP is a website-based application that presents various academic data for Padang State Polytechnic students. With the SIAK PNP, it is hoped that it will make it easier for students to get information related to academics quickly, precisely, accurately, and able to become information needed by various parties in the campus environment. The Padang State Polytechnic Academic Information System contains some academic information such as student data, pre-lectures, lectures, post-graduate studies, scholarships, alumni, majors data, and so on.

SIAK PNP can be accessed through https://siak.pnp.ac.id with the initial page display as shown below.

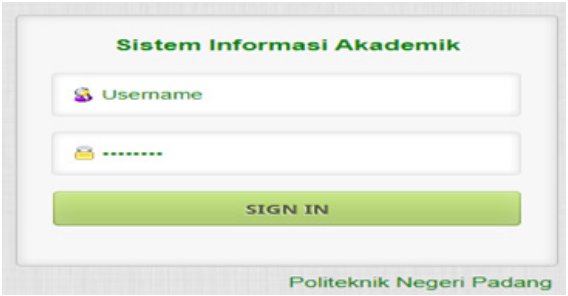

Figure 1. Main Display of SIAK PNP

At the initial screen, students are asked to fill in their username and password. Username in the form of Student Identification Number (NIM) and password consisting of 8 characters.

The following is the home page of SIAK PNP.

Figure 2. SIAK PNP Home Screen

USE Questionnaire

Usability testing will involve people/ participants and is a representation of the target user to evaluate a product in achieving certain usability criteria. The USE Questionnaire is a set of questionnaires that can measure three dimensions of the usability of a system. The questionnaire consists of aspects:usability (usefullness), ease of use (ease of use), and ease of learning (Ease of Learning). The USE Questionnare consists of 30 questions and is grouped into 4 dimensions, including usability, ease of use, ease of learning and user satisfaction. The USE Questionnaire was developed by the STC Usability and User Experience Community and published byLund (2001). A set of statements in the USE Questionnaire has been translated into Indonesian by the studyer.

Hypothesis Development

The Effect of Usefulness Variables on User Satisfaction Variables

The usefulness of a system shows how much the system provides benefits in helping users to obtain the required information. If the user feels that the system is useful, namely according to his needs, then the satisfaction of using the system can be achieved. This is supported by research conducted by Lengkong et al. (2021) that usefulness has a significant on user satisfaction either partially or simultaneously.

Meanwhile, Affandi (2018) in his research entitled Evaluation Usability of MatahariMall. com Using the USE Quistionnaire stated the results that usefulness has no effect on user satisfaction of the MatahariMall.com.

Based on the description above, this research proposes the following hypothesis: H_1: usefulness have a significant effect on user satisfaction of SIAK PNP.

The Effect of Ease of Use Variables on User Satisfaction Variables

Ease of use indicates that a system is quite easy and flexible to use. With the ease of use of a website, users can feel satisfaction with the system. Research conducted by Kusuma et al. (2016) and Kasih & Delianti (2020) empirically proves that ease of use has a significant on user satisfaction either partially or simultaneously.

Meanwhile, Sahfitri & Ulfa (2015) in his research entitled Evaluation Usability of the e-Learning System as a Learning Support Application in University Using the USE Quistionnaire stated the results that ease of use has no effect on user satisfaction of the e-learning system.

Based on the description above, this research proposes the following hypothesis: H2: ease of use have a significant effect on user satisfaction of SIAK PNP.

The Effect of Use of Learning Variables on User Satisfaction Variables

Ease of learning shows how easy a system is for its users to learn. If the user has felt the ease of learning a system, then the satisfaction of using the system can be achieved. This is supported by research conducted by Sahfitri & Ulfa (2015) and Kasih & Delianti (2020) that ease of learning has a significant effect on user satisfaction variable either partially or simultaneously.

Meanwhile, Kusuma et al. (2016) in his research entitled Usability Analysis in User Experience on the UMM KRS-Online System Using the USE Questionnaire stated the results that the ease of learning has no significant effect on user satisfaction of the UMM KRS-Online system.

Based on the description above, this research proposes the following hypothesis: H3: ease of learning have a significant effect on user satisfaction of SIAK PNP.

The Effect of Usefulness, Ease of Use, and Ease of Learning Variables on User Satisfaction Variables

ISO 9241-11 (1998) explains that the measurement of the usability of a system is seen from effectiveness, efficiency, and satisfaction in the context of intended use. These three dimensions can increase user satisfaction with the use of information systems. Research conducted by Kusuma et al. (2016), Sahfitri & Ulfa (2015), and Kasih & Delianti (2020) empirically proves that the variables of usefulness, ease of use, and ease of learning have a significant influence on the user satisfaction variable both together.

Based on the description above, this research proposes the following hypothesis: H4: usefulness, ease of use, ease of learning have a significant effect on user satisfaction of SIAK PNP.

Based on the theoretical basis and previous research above, the framework of thought in this research can be described as follows:

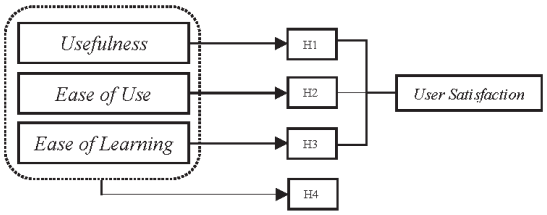

Figure 3. Conceptual Framework

METHODOLOGY

This study method is a quantitative research method. According to Sugiyono (2013:8) quantitative approach is an approach used to examine a particular population or sample, using instruments, data analysis is quantitative/statistical with the aim of testing predetermined hypotheses.

The population of this study is the students of the Padang State Polytechnic (PNP) totaling 4,593 people and the sample collection technique will be determined using the simple random sampling method. This method is sampling that provides equal opportunities for each member of the population (Sugiyono, 2018: 83).

The data used in this study is primary data. Primary data in the form of data obtained from the first party either done by interview techniques, observation, and distributing questionnaires to respondents. There is a set of questionnaires that includes the dimensions of testing the usability of a system, namely the USE Questionnaire. The questionnaire consists of four test variables including usability (usefullness), ease of use (ease of use), ease of learning (Ease of Learning), and user satisfaction (user satisfaction).

This study will collect data using a questionnaire that has been designed using google form. The questionnaire contains two parts, namely the identity of the respondent in the form of an email address and the origin of the major, while the second part contains 30 related statements contained in the USE Quenstionnaire.

Questionnaires were distributed on-line with google form to 265 respondents. However, only 225 respondents will be processed because there are outlier data and so that the difference in the percentage distribution of respondents for each department is not too significant, so that it is more representative of PNP.

Respondent's responses will be measured using a Likert measurement scale consisting of five measurement scales, namely 1 = "Strongly Disagree", 2 = "Disagree", 3 = "Neutral", 4 = "Agree", 5 = "Strongly Agree".

The data analysis technique used IBM SPSS version 25 software which consisted of data quality tests, namely validity and reliability tests, classical assumption tests, namely normality, multicollinearity, heteroscedasticity, and autocorrelation tests, and hypothesis testing using multiple linear regression analysis. The measurement criteria for the USE Questionnaire are shown in table 1.

Table 1: Measurement Criteria with USE Questionnaire

No	Criteria
	***Usefulness* (X1)**
1.	This system is very effective
2.	This system helps me to be more productive
3.	This system is very useful
4.	This system can make me control my academic activities better
5.	This system makes the things I want easy to achieve
6.	This system can save my time
7.	This system suits my needs
8.	This system can work as I expected
	***Ease of Use* (X2)**
9.	This system is very easy to use
10.	The system is simple
11.	This system is very easy to understand
12.	This system has simple steps and fits your needs
13.	The system is flexible (easy to customize)
14.	No effort is too heavy in the use of this system
15.	I can use this system without written instructions
16.	I didn't find any inconsistency while using this system
17.	Users who rarely or frequently use this system will like it
18.	Errors in this system are very easy to recover quickly
19.	I always manage to use this system every time
	***Ease of Learning* (X3)**
20.	I learned this system quickly
21.	I can easily remember how to use this system
22.	Using this system is easy to learn
23.	I quickly became skilled at using this system
	***User satisfaction*(Y)**
24.	I am satisfied with this system
25.	I am willing to recommend this system to friends
26.	This system is very fun to use
27.	This system works exactly what I want
28.	I am impressed with this system
29.	I feel this system is needed
30.	I am comfortable using this system

Source: Lund (2001)

RESULTS

Characteristics of Respondents

The characteristics of the respondents in this study were active PNP students in seven different majors. Respondents who have been obtained in this study amounted to 265 people and has exceeded the minimum number of respondents needed, namely 150 people. The number of respondents who will be sampled in this study are 228 respondents. This is because after collecting data, it was found that the number of respondents from the Accounting Department was more dominant in this study, namely 87 people or 33% of the total respondents, while the Commerce Administration Department was 30 people (11%), the English Department was 19 people (7 %), Department of Electrical Engineering as many as 35 people (13%), Department of Mechanical Engineering 41 people (16%), Department of Civil Engineering 22 people (8%), and Department of Information Technology as many as 31 people (12%). The distribution of these respondents can be shown in figure 4.

The researcher decided to only take research samples from the Accounting Department as many as 50 respondents, so that the percentage of respondents in each department did not have a significant difference and was more representative of Padang State Polytechnic. This shows that all majors have been taken as study samples evenly / proportionally, so that they can be representative of Padang State Polytechnic. The distribution of these respondents can be shown in figure 5.

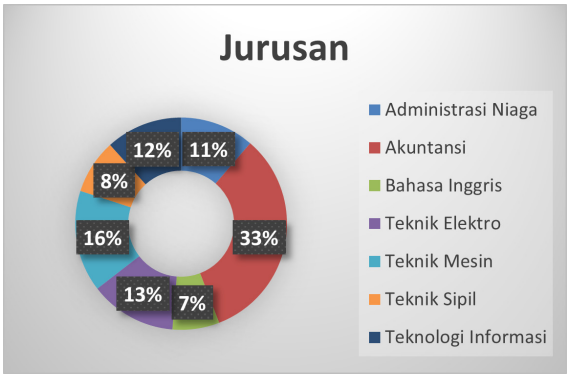

Figure 4. Distribution of Respondents I

Source: Data processed, 2021

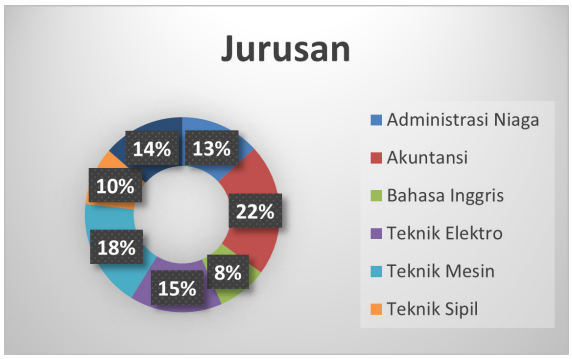

Figure 5. Distribution of Respondents II

Source: Data processed, 2021

Data Quality Test

The data of quality test was carried out by testing the validity and reliability of 30 respondents before further dissemination was carried out so that it was known whether this instrument could be used or not.

Validity Test Results

The validity test aims to show whether the questionnaire can measure what will be measured in the study (Sugiyono, 2018:198). The research questionnaire can be said to be valid if it has r arithmetic (Corrected Item) which is greater than r statistical table (Ghozali, 2011). The r value of the statistical table for the number of 30 respondents with a 5% confidence level is 0.361.The test results can be shown in table 2.

Table 2: Validity Test Results

Variabel Parameter	R Count	r Table	Keterangan
Usefulness			
X1.1	0.840	0,361	Valid
X1.2	0.793	0,361	Valid
X1.3	0,684	0,361	Valid
X1.4	0,719	0,361	Valid
X1.5	0,704	0,361	Valid
X1.6	0,666	0,361	Valid
X1.7	0,846	0,361	Valid
X1.8	0,741	0,361	Valid
Ease of Use			
X2.1	0,648	0,361	Valid
X2.2	0,646	0,361	Valid
X2.3	0,711	0,361	Valid
X2.4	0,756	0,361	Valid
X2.5	0,808	0,361	Valid
X2.6	0,721	0,361	Valid
X2.7	0,774	0,361	Valid
X2.8	0,810	0,361	Valid
X2.9	0,677	0,361	Valid
X2.10	0,721	0,361	Valid
X2.11	0.779	0,361	Valid
Ease of Learning			
X3.1	0.794	0,361	Valid
X3.2	0.747	0,361	Valid
X3.3	0.653	0,361	Valid
X3.4	0.809	0,361	Valid
User satisfaction			
Y.1	0.802	0,361	Valid
Y.2	0.830	0,361	Valid
Y.3	0.806	0,361	Valid
Y.4	0.844	0,361	Valid
Y.5	0.758	0,361	Valid
Y.6	0.774	0,361	Valid
Y.7	0.787	0,361	Valid

Source: IBM SPSS v. output. 25 (data processed, 2021)

The test above shows the value of r arithmetic > r table, so it can be concluded that the study instrument is valid.

Reliability Test Results

The reliability test aims to determine whether the measuring instrument shows consistency of results. A variable can be said to be reliable if it gives a Cronbach alpha value of more than 0.70 (Ghozali, 2011). The test results are shown in table 3.

Table 3: Reliability Test Results

Cronbach's Alpha	Items
0.973	30

Source: IBM SPSS v. output. 25 (data processed, 2021)

The test above shows the Cronbach alpha value > 0.7, so it can be concluded that the study instrument is reliable and can be tested further.

Classic Assumption Test Results

There are tests carried out before the multiple regression analysis (prerequisite) namely the classical assumption test consisting of normality test, multicollinearity test, heteroscedasticity test, autocorrelation test.

Normality Test

One of the assumptions that must be tested is to test the normality of the distribution of the data to be processed. This test has criteria if the significant value is greater than 0.05, then the data is normally distributed. In this study, researchers used the exact value of Monte Carlo (2 tailed). The results of the statistical normality test can be seen in table 4 below.

Table 4: Normality Test Result

		Unstandardized Residual
N		225
Normal	Mean	,0000000
Parameters[a,b]	Std.Deviation	0,28499051
Most Extreme	Absolute	,091
Differences	Positive	,059
	Negative	-,091
Monte Carlo sig. (2-tailed)		,062

Source: IBM SPSS v. output. 25 (data processed, 2021)

Based on the normality test using the Kolmogorov Smirnov test, it is known that the significance value is 0.062 > 0.05. This shows that the data has been normally distributed. This test gets normal results after removing outliers on 3 respondent's data.

Multicollinearity Test

Multicollinearity testing can be seen from the tolerance value and Variance Inflation Factor (VIF). If the tolerance value is greater than 0.1 and the Variance Inflation Factor (VIF) is less than 10, then there is no multicollinearity symptom. The results of the multicollinearity test in this research data can be seen in table 5 below.

Table 5: Multicollinearity Test Results.

Independent Variable	Collinearity Statistics	
	Tolerance	VIF
Usefulness (X1)	0.366	2,731
Ease of Use (X2)	0.271	3,696
Ease of Learning (X3)	0.449	2,229

Source: IBM SPSS v. output. 25 (data processed, 2021)

Based on Table 4.6 above, the tolerance value is greater than 0.1 and the Variance Inflation Factor (VIF) is less than 10 for all independent variables, so there is no symptom of multicollinearity in the data of this study.

Multicollinearity Test

A good regression model is a model that does not occur heteroscedasticity. In this study, researchers detected heteroscedasticity by looking at the scatterplot graph and the Spearman Rho test.

a. Scatterplot Graph Test

The Scatterplot Graph Test looks at the predicted value of the dependent (independent) variable, namely "ZPRED" with the residual "SRESID". Detecting heteroscedasticity is by looking at the presence or absence of certain patterns formed by scattered dots on the graph. The results of the heteroscedasticity test using the scatterplot test are shown in Figure 4.5 below.

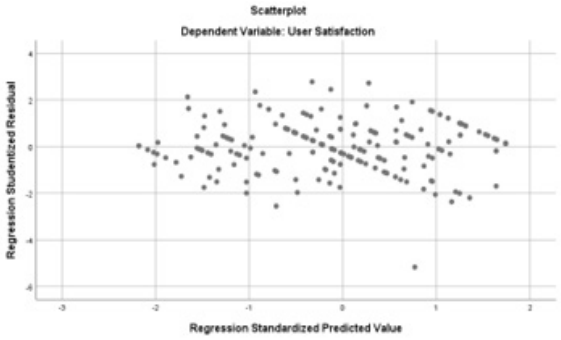

Figure 6 Heteroscedasticity Test Results
Source: IBM SPSS v. output. 25 (data processed, 2021)

Judging from the graph above, there is no regular and systematic pattern or it can be said that the points are spread above and below the number 0 on the Y axis, so it is said that the regression model is free from heteroscedasticity symptoms.

b. Spearman Rho Test

Symptoms of heteroscedasticity can be identified by Spearman Rho test if the significant value (2 tailed) is greater than 0.05. The following are the results of the Spearman Rho test in this study.

Table 6: Spearman Rho . Test Results

Variable		Uns. Residual
Usefulness	Sig. (2-tailed)	0.396
Ease of Use	Sig. (2-tailed)	0.359
Ease of Learning	Sig. (2-tailed)	0.228
	N	225

Source: IBM SPSS v. output. 25 (data processed, 2021)

The results of the Spearman Rho test above have shown that there are no symtoms of heteroscedasticity. It is indicated by the value of sig. (2-tailed) on the unstandardized residual.

Autocorrelation Test

The autocorrelation test can be seen from the Durbin Watson value obtained from data processing on IBM SPSS v.25. There is no autocorrelation in the regression model if the Durbin Watson value lies between the values of du to (4-du). The mean value (du) in the Durbin Watson distribution table is seen based on the k value, which is 3 (the number of independent variables) and N 225 (the number of respondents) at a significance of 5%.

The value of du in the Durbin Watson distribution table is 1.810. The value (4-du) is 2,190. Furthermore, the value of Durbin Watson is 2.038 as shown in the following table.

Table 7 Autocorrelation Test Result – Durbin Watson

Model	R	R Square	Adjusted R Square	Durbin-Watson
1	,870	,757	,753	2.038

Source: IBM SPSS v. output. 25 (data processed, 2021)

Based on Table 7 above, Durbin Watson's value is between the middle value (du) and (4-du). Therefore, it can be concluded that the regression model of this study does not have symptoms of autocorrelation.

Multiple Linear Regression Analysis

Multiple linear regression test in this study was conducted to see the dependence between the variables of user satisfaction (user satisfaction) on usefulness (usefulness), ease of use (ease of use), ease of learning (ease of learning), so that the coefficients of each independent variable can be known. The following results of multiple linear analysis are shown in Table 8.

Table 8 Multiple Linear Regression Analysis Test Results

Variable	Unstandardized Coefficients		Standardized Coefficients
	B	Std.Error	Beta
(Constant)	0.038	0.160	
Usefulness (X1)	0.407	0.058	0.386
Ease of use (X2)	0.522	0.068	0.487
Ease of Learning (X3)	0.056	0.049	0.056

Source: IBM SPSS v. output. 25 (data processed, 2021)

Based on Table 3.5 above, the equation for the multiple linear regression analysis of this study is as follows:

Y = 0.038 + 0.407X1 + 0.522X2 + 0.056X3 + e

Where:

a. 0.038 is a constant value, if the value of usefulness (usefulness), ease of use (ease of use), and ease of learning (ease of learning) are considered constant and constant then the value of user satisfaction is 0.038.
b. 0.407 means that the usefulness variable has an effect on user satisfaction and if the value increases, user satisfaction will be higher.
c. 0.522 means that the ease of use variable has an effect on user satisfaction and if the value increases, user satisfaction will be higher.
d. 0.056 means that the ease of learning variable has an effect on user satisfaction and if the value increases, user satisfaction will be higher.

Hypothesis Test Results

To test the effect of the independent variables on the satisfaction of SIAK PNP users, the multiple linear regression analysis method was used with a significance level (α) of 0.05. A summary of the test results is shown in table 5 below:

T Test Results

Table 5 Summary of T Test Results

Hypothesis	Beta	t	Significance		Conclusion
H1: X1 => Y	0.407	7.049	0.000	Significant	H1 Accepted
H2: X2 => Y	0.522	7.64	0.000	Significant	H2 Accepted
H1: X3 => Y	0.056	1.137	0.257	Not significant	H3 Rejected

Based on Table 5, it can be seen that the usefulness and ease of use variables are significant on user satisfaction (sig <0.05). The ease of use variable has the greatest influence (Beta = 0.522) on SIAK PNP user satisfaction and is followed by the usefulness variable (Beta = 0.407). Meanwhile, ease of learning does not affect the user satisfaction of SIAK PNP (sig > 0.05).

The usefulness variable has a significant effect on user satisfaction, so H1 can be accepted. Padang State Polytechnic has succeeded in creating an Academic Information System that is very useful for students. The system has been found to be effective, efficient, and very useful. SIAK PNP users feel that the information presented has helped them in fulfilling their academic information quickly and accurately. Therefore, the usability factor of SIAK PNP is able to provide to its users. This is in line with study Kusuma et al. (2016), Sahfitri & Ulfa (2015), and Kasih & Delianti (2020). These results explain that students feel that the use of SIAK PNP has been effective and efficient. The system is able to provide the required information accurately and quickly.

The second variable that has a significant effect on user satisfaction of SIAK PNP is ease of use, so H2 can be accepted. This is in line with the study results Kusuma et al. (2016) and Kasih & Delianti (2020). User satisfaction of SIAK PNP can be seen from the ease in carrying out the steps in the system, flexibility in obtaining information, and no effort being too heavy in accessing the website. SIAK PNP already has a simple display and easy to understand steps to use so that user needs can be met easily. It can be concluded that the Padang State Polytechnic has succeeded in providing an academic information system that is designed as simple as possible, so that users feel satisfied in using SIAK PNP.

Meanwhile, ease of learning has no effect on SIAK PNP user satisfaction, so H3 is rejected. This is in line with the study results Kusuma et al. (2016) which states that each student has different abilities in learning the system. Users feel that they have not been able to remember how to use SIAK PNP and learn it quickly. This can be due to unskilled users and accustomed to using SIAK PNP. There are several ways that can make the system easy to learn, one of which is related to the appearance of the system. It is hoped that SIAK PNP will provide an interface that is easily accessible to users, such as presenting images that match the information and by using words that are easy and direct to the user's needs.

F Test Results

Furthermore, the F test is carried out, namely testing the hypothesis jointly between the independent variables and the dependent variable. The summary of the results of the F test is shown in table 6 below:

Table 6 Summary of F . Test Results

Hypothesis	F-value	Significance	Conclusion
X1+X2+X3 => Y	229,240	0.000	H4 Accepted

The test results show that usefulness, ease of use, and ease of learning have a significant effect on SIAK PNP user satisfaction (sig <0.05), so H4 is accepted. This is in line with the study results Sahfitri & Ulfa (2015), Kusuma et al. (2016), and Kasih & Delianti (2020).

Determination Test Results (Adjusted R^2)

The coefficient of determination is used to determine how big the contribution of the independent variable to the dependent variable in the regression equation is obtained. If the adjusted R Square value is getting closer to 1, then it shows the greater the contribution/influence of the independent variable on the dependent variable. In this study, the determination test is not seen from the R Square value but from the Adjusted R Square value because it has more than two independent variables. The following results of the determination test are shown in Table 4.10.

Table 7 Determination Test Results (Adjusted R2)

Model	R	R Square	Adjusted R Square
1	,870	,757	,753

Source: IBM SPSS v. output. 25 (data processed, 2021)

Based on the table above, it is known that the value of *Adjusted* R Square is equal to 0.676. This shows that there is a contribution of 75.3% of the variables of usefulness (usefulness), ease of use (ease of use), and ease of learning (ease of learning) to the variable of user satisfaction (user satisfaction). It also informs that there are 24.7% of other factors that did not participate in this study.

CONCLUSION

Based on the partial test, it can be concluded that there is a significant influence between the independent variables, namely usefulness, and ease of use on user satisfaction variable of SIAK PNP, while the ease of learning does not affect on user satisfaction. However, based on simultaneous testing, all independent variables have an effect on the dependent variable.

This study has implications for the Padang State Polytechnic in evaluating the Academic Information System (SIAK PNP). This study also contributes to further study related to the factors that affect user satisfaction in an information system, especially in educational institutions.

This study has several limitations, so it is necessary to give suggestions for further study, namely by adding other factors that can affect information system user satisfaction, increasing study implementation time so that more respondents are obtained, and adding primary data collection methods in addition to using questionnaires so that the results are more comprehensive.

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