

THE PORTAL APPLICATION OF ACADEMIC INFORMATION SYSTEM TOWARDS SATISFACTION OF ENGLISH EDUCATION DEPARTMENT STUDENTS AT STATE ISLAMIC UNIVERSITY OF NORTH SUMATRA MEDAN

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ABSTRACT

The purpose of this analysis is to assess the effect of the academic information system on the satisfaction of the English Department of Education. The goal of the analysis is to determine the effect of the academic information system on the satisfaction of the English Department of Education. The population of this research was 861 and the survey was 205 students or respondents. The results of this analysis showed that the system quality variable (X_1) for the academic information system in the English Department was good, such as 133 or 64.88 per cent, the information quality variable (X_2) was good, such as 129 or 62.93 per cent, and the information security variable (X_3) was good, such as 135 or 65.85 per cent.

Keywords: satisfaction, portal, academic.

1. INTRODUCTION

Academic Information Systems are compiled from a variety of data that are managed and processed as automatically as possible using tools and methods to generate the information needed for academic activities. The program is divided into a variety of subsystems: (a) new student selection and registration; (b) curricula and fields of study; (c) lectures, assignments, examinations; (d) the management and development of professors; and (e) graduation and alumni. State Islamic University of North Sumatra is one of the universities that used the academic portal as a medium for obtaining information and conducting academic activities such as filling in the Study Plan Cards, reviewing the Study Result Cards, class and lecturer information as well as lecture schedules and viewing the Value Transcripts. This is hoped that the academic platform should be able to minimize the time taken to retrieve knowledge by not decreasing the accuracy of the content and by providing more effective outcomes for both stakeholders so that consumers can be pleased with the program used.

2. LITERATURE REVIEW

The Academic Information System is a web-based information system that aims to establish a knowledge-based system that can be accessed through the Internet, such as the types of information contained therein as described below (Arifin, 2002).

- a) News, includes the latest information published by educational institutions and technological information from various news sources.
- b) Education includes information on lectures in educational institutions, such as curriculum, lecture program unit, lecturers, lecture material, job training, final project and research.
- c) The Community shall comprise a community of educational institutions that shall inform the academic community, such as staff, students, alumni, newsletters and others.
- d) Personal data, including student-related information;
 - (i) Study plan cards in accordance with courses that have been programmed for one semester.
 - (ii) Study the result card to find out the results achieved during the lecture and study evaluation results, as well as to know the achievement index.
- e) Schedule of lectures, which includes the schedule of lectures, student activities, lecturer monitors, lecture schedules, number of attendance at the lectures.
- f) Library, containing information about books through an online catalogue.

- g) Electronic Mail (E-mail), which sends and receives letters / messages at the same time, can be used as a means or tool for discussion between students, lecturers and even staff in educational institutions.

The academic portal is an information network that acts for scholarly knowledge in different academic units (study programs) and as a means of contact with the academic culture of the campus. This system is built on the condition that academic information exists on campus, which is very diverse and varied in shape, so that it requires a portal that integrates such information in order to facilitate public access. Customer satisfaction is the response and feedback provided by the user after using the information system. The user's attitude, if the information is expected to be useful and in line with user needs, will lead to user satisfaction and will continue to use the system. User satisfaction is the user's response to the output of the information system.

3. CONCEPTUAL FRAMEWORK

Based on the empirical context outlined in current hypotheses and previous research, it can be inferred that the operation of the academic information system platform has an impact on student satisfaction. An outline of the conceptual structure layout of the implementation of the academic information system database to the benefit of students of the Department of English Education at the State Islamic University of North Sumatra was thus received, as can be seen in Figure 1 below.

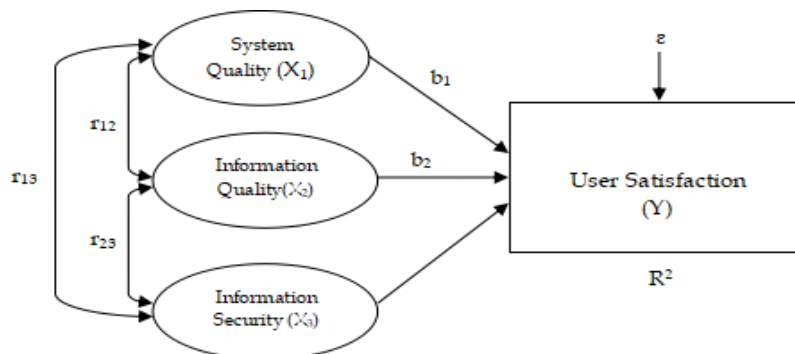


Figure 1: Conceptual Framework for System Quality Influence (X_1), Information Quality (X_2), and Information Security (X_3) on User Satisfaction (Y)

4. RESEARCH DESIGN

This research is a type of quantitative research with the object of research all active students of English education at State Islamic University of North Sumatra. The data collection technique in this research is questionnaire. The questionnaire is a data collection technique used to provide all the respondent with such a set of written statements to respond. In the relevant respondent research were students of English education at State Islamic University of North Sumatra as users of the academic information system portal.

Based on the data collected from the questionnaire, the data analysis was carried out by the researchers. Study data from the distribution of questionnaires have been processed using SPSS software throughout this case. SPSS is a statistical research order. SPSS stands for Social Sciences Statistical Kit. The use of SPSS in research is intended for statistical analysis and analysis. A lot of research that can be done with such applications, including: Descriptive Test, Linear Regression, Logistic Regression, Factor Analysis, Normality Test, F-Test and T-Test, Independent T-Test, ANOVA, MANOVA, ANCOVA, Non-Parametric Test which is very broad, such as the Mann Whitney U-Test, Wilcoxon signed a rank test, Spearman and Kendall. It can even be used for making graphics, such as Histograms, Normal PP, Detrend PP, and Boxplot. For instrument testing or validity and reliability testing, SPSS can also do it with complete features.

5. RESEARCH DATA PROCESSING

Before conducting data processing, the research instrument in the form of a questionnaire must first be tested for validity, reliability and normality of the data. The researcher conducts all three tests using SPSS. Valid means that the questionnaire is appropriate or in accordance with its designation, whereas reliable means that the questionnaire used is steady or consistent, and the normality test is carried out to test the residual values of research variables normally distributed.

a) System Quality Data Reliability and Validity (X₁)

Case Processing Summary

		N	%
Cases	Valid	205	100.0
	Excluded ^a	0	.0
	Total	205	100.0

^aListwise deletion based on all variables in the procedure.

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
47.44	49.170	7.012	12

Reliability Statistics

Cronbach's Alpha	N of Items
.932	12

To check the reliability of the questionnaire, the Cronbach Alpha column is used if the value is greater than 0.7, and the questionnaire is accurate. The Cronbach alpha value obtained at X₁ is 0.932 > 0.700, which means that the system quality variable questionnaire (X₁) is reliable.

Item Statistics

	Mean	Std. Deviation	N
X _{1.1}	4.21	.674	205
X _{1.2}	3.65	.966	205
X _{1.3}	4.04	.723	205
X _{1.4}	4.11	.766	205
X _{1.5}	4.08	.699	205
X _{1.6}	3.47	.926	205
X _{1.7}	3.82	.822	205
X _{1.8}	3.83	.801	205
X _{1.9}	4.09	.709	205
X _{1.10}	4.25	.682	205
X _{1.11}	3.93	.738	205
X _{1.12}	3.95	.695	205

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
X _{1.1}	43.23	42.746	.678	.928
X _{1.2}	43.79	40.480	.631	.931
X _{1.3}	43.40	42.182	.688	.927
X _{1.4}	43.34	41.156	.756	.924
X _{1.5}	43.36	41.653	.779	.924
X _{1.6}	43.98	40.798	.635	.930
X _{1.7}	43.62	40.531	.761	.924
X _{1.8}	43.61	40.522	.785	.923
X _{1.9}	43.36	41.721	.759	.925
X _{1.10}	43.19	43.233	.610	.930
X _{1.11}	43.51	41.212	.783	.924
X _{1.12}	43.50	42.614	.670	.928

To test the true value of X_1 , using the Updated Entity-Total Correlation method, valid if the value of the argument variable in the method is greater than 0.3. So the X_1 statement items were found to be correct.

b) Reliability and Validity of Information Quality Data (X_2)

Case Processing Summary

		N	%
Cases	Valid	205	100.0
	Excluded ^a	0	.0
	Total	205	100.0

a. Listwise deletion based on all variables in the procedure.

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
24.74	9.928	3.151	6

Reliability Statistics

Cronbach's Alpha	N of Items
.903	6

To test the reliability of the questionnaire, the Cronbach Alpha column is used whenever the value is higher than 0.7 and the questionnaire is correct. In X_2 , the Cronbach Alpha value of $0.903 > 0.700$ indicates that the knowledge content indicator questionnaire (X_2) is effective.

Item Statistics

	Mean	Std. Deviation	N
$X_{2.1}$	4.06	.765	205
$X_{2.2}$	3.99	.754	205
$X_{2.3}$	4.14	.606	205
$X_{2.4}$	4.21	.563	205
$X_{2.5}$	4.20	.534	205
$X_{2.6}$	4.14	.581	205

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
$X_{2.1}$	20.68	6.600	.698	.895
$X_{2.2}$	20.75	6.698	.682	.897
$X_{2.3}$	20.60	7.231	.715	.888
$X_{2.4}$	20.53	7.290	.764	.882
$X_{2.5}$	20.55	7.249	.832	.875
$X_{2.6}$	20.60	7.104	.803	.877

Using the Fixed Item-Total Correlation function to test the meaning of X_2 whether the sum of the argument element in that function is greater than 0.3. But it was noticed that the X_2 statement elements were right.

c) Reliability and validity of Information Security data (X_3)

Case Processing Summary

		N	%
Cases	Valid	205	100.0
	Excluded ^a	0	.0
	Total	205	100.0

a. Listwise deletion based on all variables in the procedure.

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
8.45	1.112	1.054	2

Reliability Statistics

Cronbach's Alpha	N of Items
.786	2

The Cronbach Alpha column is used to test the reliability of the questionnaire whether it is higher than 0.7 and the questionnaire is correct. For X₃, the Cronbach Alpha value of 0.786>0.700 indicates the data security element questionnaire (X₃) is correct.

Item Statistics

	Mean	Std. Deviation	N
X _{3.1}	4.25	.570	205
X _{3.2}	4.20	.592	205

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
X _{3.1}	4.20	.350	.647	.
X _{3.2}	4.25	.325	.647	.

Using Set Object-Total Ratio variable to test the importance of X₃ if the total of the statement factor in that variable is greater than 0.3. The results of the SPSS indicate that the X₃ assertion is right.

d) Reliability and validity of User Satisfaction data (Y)

Case Processing Summary

		N	%
Cases	Valid	205	100.0
	Excluded ^a	0	.0
	Total	205	100.0

a. Listwise deletion based on all variables in the procedure.

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
24.94	9.467	3.077	6

Reliability Statistics

Cronbach's Alpha	N of Items
.868	6

To check the specificity of the questionnaire, the Cronbach Alpha column is used if the value is greater than 0.7 and the questionnaire is accurate. For Y, the Cronbach alpha value is 0.868>0.700, which means that the user satisfaction variable (Y) of the questionnaire is reliable.

Item Statistics

	Mean	Std. Deviation	N
Y. ₁	4.02	.816	205
Y. ₂	4.20	.662	205
Y. ₃	4.20	.583	205
Y. ₄	4.22	.601	205
Y. ₅	4.18	.625	205
Y. ₆	4.11	.651	205

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Z. ₁	20.92	6.445	.568	.871
Z. ₂	20.74	7.038	.567	.862
Z. ₃	20.74	6.734	.790	.827
Z. ₄	20.72	6.674	.783	.827
Z. ₅	20.77	6.602	.771	.828
Z. ₆	20.83	6.995	.595	.858

6. DISCUSSION

a) Normality of Data Results

For normality from the results of the data obtained the following results:

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	X ₃ , X ₁ , X ₂ ^b		Enter

- a. Dependent Variable: Y
- b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.814 ^a	.662	.657	1.801

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

ANOVA^a

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	1279.131	3	426.377	131.411	.000 ^b
Residual	652.166	201	3.245		
Total	1931.298	204			

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

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	4.284	1.075		3.986	.000
X ₁	.114	.034	.260	3.379	.001
X ₂	.243	.079	.249	3.064	.002
X ₃	1.091	.192	.374	5.668	.000

- a. Dependent Variable: Y

By using the SPSS program, researchers obtain the following data:

Value $R^2 = 0.662$.

The value of the regression coefficient X_1 to Y is 0.260,

The regression coefficient value X_2 to Y is 0.249,

The regression coefficient value X_3 to Y is 0.374,

So it is obtained $Y = 0,260 X_1 + 0,249 X_2 + 0,374 X_3 + \epsilon$

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	16.68	29.34	24.94	2.504	205
Residual	-12.534	5.784	.000	1.788	205
Std. Predicted Value	-3.300	1.757	.000	1.000	205
Std. Residual	-6.959	3.211	.000	.993	205

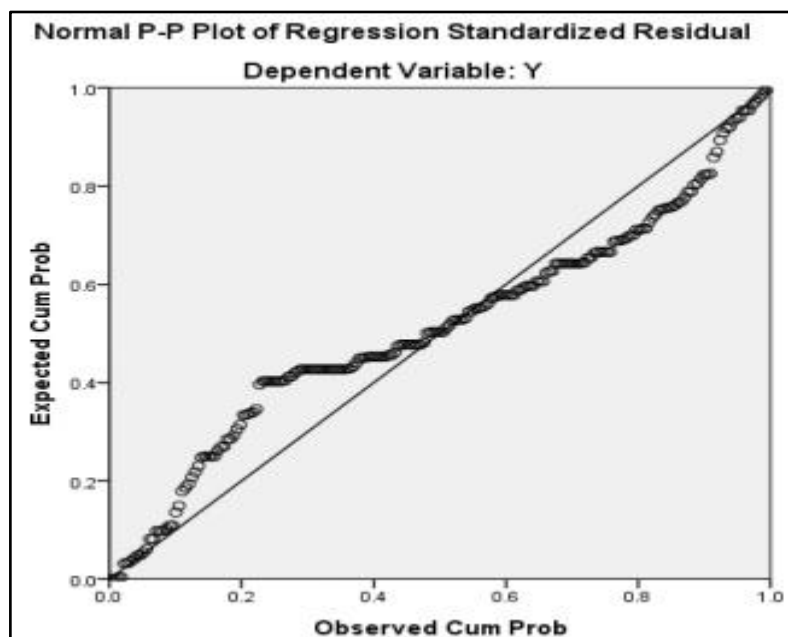
a. Dependent Variable: Y

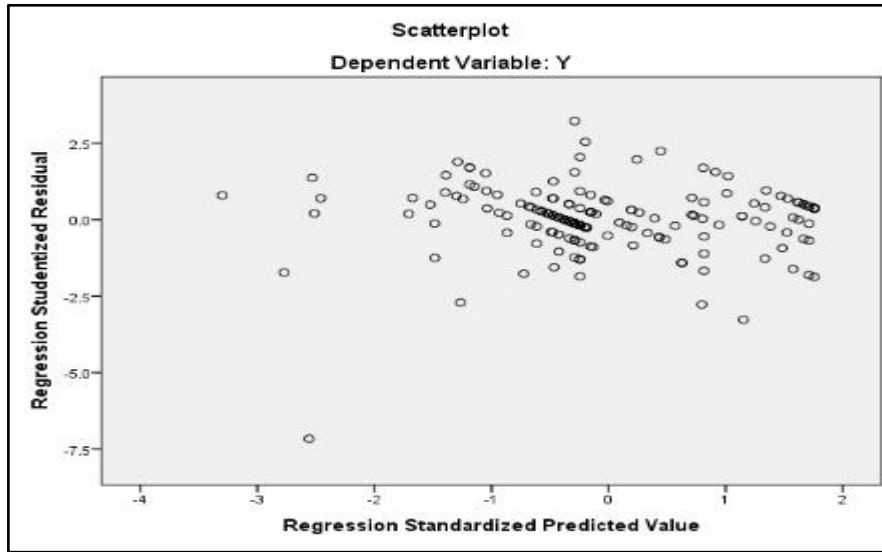
Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	16.68	29.34	24.94	2.504	205
Std. Predicted Value	-3.300	1.757	.000	1.000	205
Standard Error of Predicted Value	.139	.681	.233	.096	205
Adjusted Predicted Value	16.46	29.41	24.94	2.504	205
Residual	-12.534	5.784	.000	1.788	205
Std. Residual	-6.959	3.211	.000	.993	205
Stud. Residual	-7.161	3.222	.000	1.009	205
Deleted Residual	-13.274	5.822	.001	1.849	205
Stud. Deleted Residual	-8.276	3.300	-.005	1.056	205
Mahal. Distance	.214	28.154	2.985	3.804	205
Cook's Distance	.000	.756	.009	.054	205
Centered Leverage Value	.001	.138	.015	.019	205

a. Dependent Variable: Y

In order to obtain the Regression Plots as follows:





The findings from three independent variables (X_1, X_2, X_3) and one dependent variable (Y) are natural because they are uniformly distributed. When the correlation coefficients are obtained, a model representation of the influence of independent variables and dependent variables of the experiment is produced, as seen in Figure 2 below.

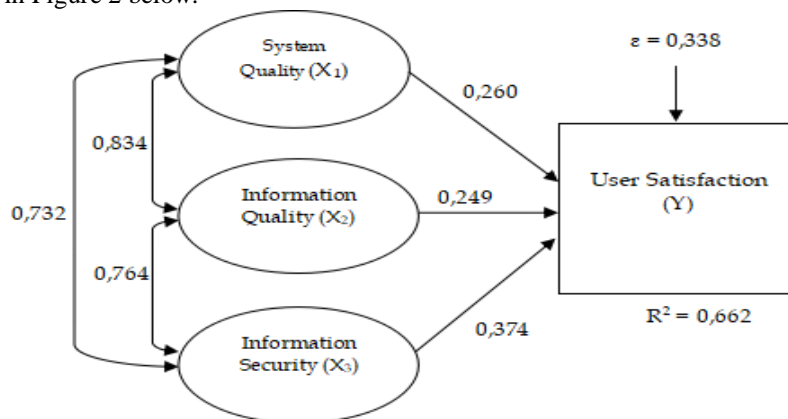


Figure 2: Influence of System Quality (X_1), Information Quality (X_2) and Information Security (X_3) User Satisfaction Paradigms (Y) Portal of State Islamic University of North Sumatra

b) Verification Analysis

The next step is to perform a verification analysis using Excel to compare the total influence or coefficient of determination so that the results of the following table are obtained.

Path Analysis, the effect of $X_1, X_2,$ and X_3 to Y

VARIABLE	DIRECT EFFECT	INDIRECT EFFECT			TOTAL EFFECTS
		X_1	X_2	X_3	
X_1	0,068		0,054	0,071	0,193
X_2	0,062	0,054		0,071	0,187
X_3	0,140	0,071	0,071		0,282
Total	0,269	0,125	0,125	0,142	0,662

The findings of the measurements using SPSS and Excel indicate that the coefficient of determination (R^2) or BC of the combined direct and indirect influence on Y is equivalent to 0.662 or 66.2 per cent. The first is the estimation of the residual benefit or residual impact of other factors not evaluated or of what is commonly referred to as Epsilon (Peru) which has a PAR = 100 per cent-BC meaning.

7. CONCLUSION

Upon the basis of the results of the data collection through questionnaires, the processing of research data and the interpretation of the results of the study, the following conclusions can be drawn from the study.

- a) System Quality Indicator (X_1) on the academic information system of the English Education Department included in the Positive Category, which is equivalent to 133 or 64.88 per cent.
- b) Information Quality Factor (X_2) on the academic information system of the English Department of Education is included in the Great category, which is equivalent to 129 or 62.93 per cent.
- c) Information Security Variable (X_3) on the academic information system of the English Department of Education is included in the Good category equal to 135 or 65.85 per cent.
- d) User Satisfaction Variable (Y) on the academic information system of the English Department of Education is included in the Good category, which is equal to 132 or 64.39 per cent.
- e) The coefficient of regression (path coefficient) of the variable X_1 to Y is 0.260. The direct effect of X_1 on Y is equivalent to the regression coefficient square, i.e. $(0.260)^2 = 0.068$. The total effect of X_1 both directly and indirectly on Y is 0.193.
- f) The coefficient of regression (path coefficient) of the vector X_2 to Y is 0.249. The direct effect of X_2 on Y is equal to the regression coefficient square $(0.249)^2 = 0.062$. The cumulative influence of X_2 on Y is 0.187, both directly and indirectly.
- g) The variable X_3 to Y has the coefficient of regression (path coefficient) of 0.374. The direct effect of X_3 to Y is equal to the square of the regression coefficient $(0.374)^2 = 0.140$. The total effect of X_3 directly and indirectly on Y is 0.282.
- h) The indirect effect of X_1 by X_2 to Y is equivalent to $(0.834) \times (0.260) \times (0.249) = 0.054$. Therefore the indirect effect of X_2 by X_1 to Y is equal to $(0.249) \times (0.834) \times (0.260) = 0.054$.
- i) The indirect effect of X_1 through X_3 to Y is $(0.260) \times (0.732) \times (0.374) = .071$. Nor is the indirect result of X_3 by X_1 to Y equal to $(0.374) \times (0.732) \times (0.260) = 0.071$.
- j) The indirect effect of X_2 by X_3 to Y is $(0.249) \times (0.764) \times (0.374) = 0.071$. Nor is the indirect result of X_3 by X_2 to Y equivalent to $(0.374) \times (0.764) \times (0.249) = 0.071$.
- k) Complete effect of X_1 , X_2 and X_3 at 0.662 or 66.2 per cent, both explicitly and indirectly, on Y . Epsilon or the residual influence of other objective variables influencing customer interaction (Y) yet not explored is 0.338 or 33.8%.

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