

Impact Of Academic Information Systems And Teachers' Competitions On The Deposition Of School Students In Science Administration Banten

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ArticleInfo	ABSTRACT
Keywords: Academic information systems, faculty competence, student satisfaction.	The study aims to find out the impact of academic information systems on student satisfaction at the Banten College of Administrative Sciences, to know the influence of faculty competence on students' satisfaction in the Bante College of Administration Sciences and to know how the academic informatics system and the faculty's competence jointly influence student's satisfaction. According to Hansemark and Albinsson (2004) quoted Singh (2006), "General customer satisfaction is an attitude towards a service provider, or an emotional reaction to the difference between what a customer expects and what they receive, regarding the fulfilment of a need for a purpose or desire." The method used in this study was a quantitative method through a questionnaire, with a population of 902 active students at the Banten College of Administrative Sciences and a sample of 86 people, sample calculations using Isaac and Michael's formulas. Based on analysis with the help of the application SPSS version 24 showed that the impact of the academic information system on student satisfaction of Banten College of Administrative Sciences was 25.4%, the influence of the faculty competence on the students satisfaction at Banten School of Administration Sciences of 17.5%, and the effect of the educational information system and the competence of the lecturer jointly on the Student Satisfaction at the Banten High School of administrative sciences, was 47.9%.
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INTRODUCTION

The growing public need for formal education, especially higher education, makes colleges a strategic sector that is expected to generate quality human resources. The competitive situation between colleges requires educational institutions to pay attention to the quality of education and institutions in order to be able and superior in such competition. Colleges must take precautionary measures to face increasingly competitive competition and be responsible to dig and improve all aspects of the services they have. Research on the various problems faced by colleges in relation to the measurement of quality of services, assessment with accreditation approach as well as assessment of Direct characteristics such as the study failure rate (DO), study time and so on are considered insufficient so that a new paradigm is needed as an indicator of quality measurement. (Sadat, 2002). The success of a college is

largely determined by the quality of service given, where quality service can be identified through customer satisfaction, in this case students. Cravens (Handayani, Dkk., 2003) stated that, "To a high level of satisfaction, it is necessary to have an understanding of what consumers want, by developing the commitment of each person in the institution to meet consumer needs".

According to Sugito (2005), customer satisfaction is a state of fulfillment of the wishes, expectations, and needs of the customer. Measurement of service quality is an important element in providing better, more efficient, and more effective service. Therefore, quality of service should start from consumer needs for service and end in consumer perception of the quality of the service provided. Some countries, such as Korea, Japan, the United States, France, Germany and even Singapore or Malaysia, as the geographically closest neighbors to Indonesia, can be more advanced and more developed, both economically and technologically, because the education system in the country is better and better developed and supported by good facilities anyway. It cannot be denied that education is the primary necessity for the development of a country. Therefore, the improvement of education must be done in order to create a human resource that is qualified, faithful, fearful and responsible as set out in the Law of the Republic of Indonesia Number 20 Year 2003 on the National Education System (SISDIKNAS) Chapter II chapter 3, that: The Banten College of Administrative Sciences is a renowned higher education institution in the district of Pandeglang and its surroundings which has been in existence since 2002, continuously striving to improve the system and quality of education and the development of scholarship with a focus to be able to produce graduates who are competent in the field of State Administration Science and Business Administration Sciences, as well as able to compete with graduates from other colleges.

To find out the various shortcomings in terms of service, then every beginning of the semester management, academic and major parties always hold meetings with the entire faculty staff. The meeting, in addition to being a day of thanksgiving, was also provided with complementary information and as an evaluation of the services provided by the entire academic community. With the hope of a shortage in the service and learning process teaching can be corrected and enhanced in the next semester. Nevertheless, has the evaluation been fully conducted by management, academics, major and lecturers? So that in the service can be re-improved and can make students as customers of the higher education feel satisfied with the service provided? Looks like it hasn't been revealed in depth. According to Alma (2005:38) said that administrative power is actually a trade mark of the college itself. Whether or not, whether or not the administration is friendly or not in serving students or the community, will have a profound impact on those who receive the service. In accordance with its basic tasks and functions, the administrative staff in the faculty perform various services to support the smooth execution of academic activities.

Thus, in order to improve the quality of education, both lecturers and administrative staff must provide added value in terms of improving academic and non-academic (administrative) services. It implies that each lecturer and administration staff in various units of work must better understand and prioritize the satisfaction of students as customers so

that the improvement in the education quality can be felt not only by the stake holder but also the customers of Banten College of Administrative Sciences. Student satisfaction can also be shaped by the cultural factors that exist in the educational institution where the student is studying, because culture can influence almost everything that happens. Besides, it's happening over and over again. According to Deal & Peterson (2009:9) culture influences and shapes the way teachers, students, and administrators think, feel, and act. Culture is a powerful ritual and tradition, norms and values that affect every corner of school life. (kampus).

To find out whether the academic administrative department of Banten College of Administrative Sciences and the lecturer who teaches at the Banten School of Administration Sciences has provided services that meet the expectations of students, namely, can meet their needs and wishes, the researchers are interested in conducting research on the influence of academic information systems and the competence of lecturers on the satisfaction of students at Banten University of administrative sciences.

METHODOLOGY

Research Approach

According to Sugiyono (2011:11), quantitative methods can be understood as research methods based on the philosophy of positivism, used to research on a particular population or sample, data collection using research instruments, data analysis is quantitatively/statistically, with the aim of testing the hypothesis that has been established. The method used is the quantitative method, with the associative problem formula and the approach or framework of dual paradigm thinking with two independent variables that are supposed to be the most dominant variables affecting student satisfaction i.e. academic information system and faculty competence.

Operationalizing Research

Tabel 3.1
Operasionalisasi Penelitian

Variabel	Dimensi	Indikator	Item Soal
SISTEM INFORMASI AKADEMIK Yakub (2012:1)	1. Input data mahasiswa	▪ Registrasi ulang	1
		▪ Daftar nama mahasiswa	2
	2. Input data dosen	▪ Daftar nama dosen	3
	3. Input data mata kuliah	▪ Jadwal kuliah	4
		▪ Jumlah SKS	5
	4. Input data KRS	▪ Absen mahasiswa setiap mata kuliah	6
	5. Input daftar nilai mahasiswa	▪ Wajib mengisi KRS	7
KOMPETENSI DOSEN Hall dan Jones dalam Mukminan (2003:2)		▪ Syarat KRS dapat keluar	8
	6. Input daftar nama mahasiswa	▪ Daftar nama wisudawan	9
	7. Input data keuangan	▪ Daftar mahasiswa aktif	10
	1. Kompetensi profesi	▪ Keluasan wawasan akademik	1
		▪ Pendalaman materi	2
	2. Kompetensi pedagogik	▪ Pengasaan dosen terhadap macam pendekatan	3
		▪ Metode mengajar	4
		▪ Pengelolaan kelas	5
		▪ Evaluasi pembelajaran	6
	3. Kompetensi kepribadian	▪ Keteladanan	7
KEPUASAN MAHASISWA BC College & Institute Student Outcome Vol 3 No. 1 (2003)		▪ Antusiasme	8
	4. Kompetensi sosial	▪ Menghargai kemajemukan	9
		▪ Aktif dalam kegiatan sosial	10
	1) Kurikulum	▪ Isi kurikulum	1
		▪ Kumpulan kurikulum	2
		▪ Penyampaian perkuliahan	3
	2) Pola mengajar	▪ Kualitas instruksi	4
	3) Kemampuan menganalisa	▪ Berfikir kritis	5
		▪ Dapat menyelesaikan masalah	6
	4) Kemampuan berkomunikasi	▪ Berbicara efektif	7
		▪ Saling mendukung	8
	5) Kemampuan sosial		9
	6) Pertumbuhan diri	▪ Memahami kemampuan diri	10

Data collection techniques

The data collection technique in this study using a questionnaire or angket is a list containing a series of questions, to obtain data in the form of answers that have a scale from the respondents (those who answered) while the scale used is likert scale or likert Scale used for the subject studied Faisal (2001:143). Which means that the respondent is a self-evaluating subject.

- The appraiser (respondent) is a student of STIA Banten.
- The subject assessed is the satisfaction of students of the Banten STIA likert scale.
- Totally agree..... answer weight 5
- Agree..... answer weight 4
- Doubts..... reply weight 3
- Disagree..... answer weight 2
- Absolutely disagreed..... answer weight 1

Sampling and Techniques

The population in this study was 902 visitors or students of STIA Banten. Further determination of the number of samples in this study using the formula issac and Michael (Sugiyono, 2011:128), namely:

$$S = \frac{\lambda^2 \cdot N \cdot P \cdot Q}{d^2 (N - 1) + \lambda^2 P \cdot Q}$$

Data Analysis Techniques**Classical Assumption Test**

- a. Normality Test
- b. Autocorrelation Test
- c. Heterocedastisity Test

Hypothesis Test

- a. Double Correlation
- b. Determination Coefficient
- c. Double Regression
- d. T and F Tests Statistics

Data validity tests

- a. Validity test
- b. Reliability test
- c. Results of validity and reliability tests

DISCUSSION

Research Results

The existence of the Banten School of Administrative Sciences (STIA Banten) is not independent of the Jakarta Foundation Ilomata, which in 1999 conducted surveys and studies of interest in continuing studies to the university level, in particular in the program of studies of administrative sciences against students of Class III SLTA, as well as the officials in the local government district of Lebak district, Serang district and Pandeglang district. In view of the high public interest in the education program administered by the Jakarta Ilomata Foundation, finally in 2001, the Pandeglang Branch Ilomate Foundation was established.

The Banten School of Administrative Sciences (STIA Banten) obtained permission for the maintenance of the program of study and establishment from the Minister of National Education of the Republic of Indonesia under Decree No. 141/D/O/2002 dated 8 July 2002, with the study program opened: State Administration Science and Business Administration Sciences Currently, both the programmes have been granted extension of the permission to maintain the programme of study from the Directorate General of Higher Education of Ministry of National education of the Republik of Indonesia based on the decision of the Director Dikti:

- a) Number: 11437/D/T/K-IV/2012, on renewal of permission to maintain the State Administration Studies Programme, accredited status BAN-PT.
- b) No.: 12724/D /T / K-IV/2012 on extension of permit to maintain a Programme of Administrative Studies, accredited status BAN -PT.

Classical Assumption Test Results

Normality Test

The normality test aims to test whether in a regression model, both bound variables and free variables have normal distribution or not.

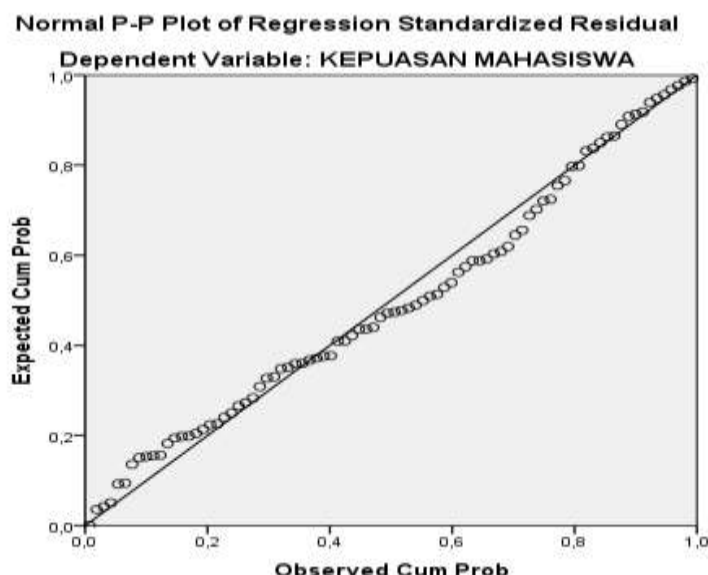


Figure 4.1 Normal P-P Plot with Binded Variable Student Satisfaction

From Figure 4.1 it is known that the dots tend to follow a diagonal line so that it can be assumed that the data is distributed normally.

Autocorrelation Test

An autocorrelation test is performed to test whether in a linear regression model there is a correlation between an interference error in the period t and an error in $t-1$. The results of the autocorrelation test in this study can be seen in Table 4.3.

Table 4.3 Autocorrelation Test Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.692 ^a	.479	.466	3,147	2,388
a. Predictors: (Constant), KOMPETENSI DOSEN, SISTEM INFORMASI AKADEMIK					
b. Dependent Variable: KEPUASAN MAHASISWA					

According to the Durbin-Watson table, the dL is 1,602 and the dU is 1,697. According to Ghazali (2001: 62), if the DW is located between the upper bound and $(4-du)$ then there is no autocorrelation. It can then be concluded that there is no correlation between interference errors in the linear regression model in this study.

Heteroskedastisitas Test

The heteroskedastisity test aims to test whether in the regression model there is variance inequality from the residual of one observation to the other.

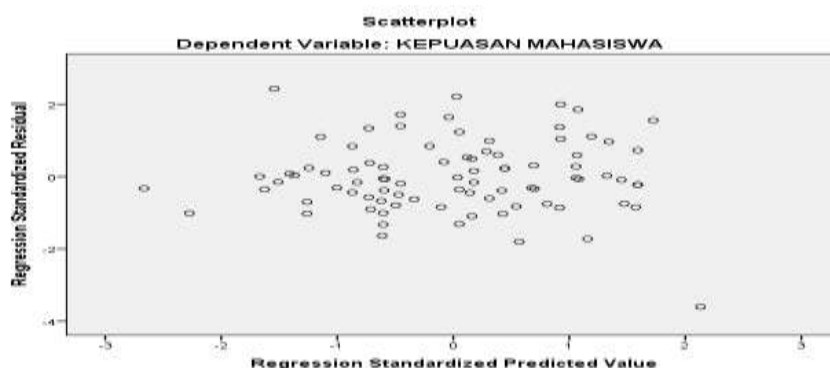


Figure 4.2 Scatterplot Variable Binded Student Satisfaction

Based on Figure 4.2 of the Scatterplots Chart, it is known that the points are spread randomly above and below the zero and do not form a special pattern. It shows that there is no occurrence of heterocadastisity which means that there has been no variance inequality from the residual of one observation to the other observation in this study.

Data Analysis

Academic Information Systems

Tabel 4.4 Statistics		
		SISTEM INFORMASI AKADEMIK
N	Valid	86
	Missing	0
Mean		25,30
Median		25,00
Mode		23
Std. Deviation		4,417
Variance		19,500
Range		20
Minimum		15
Maximum		35

From the computer variable calculations of the academic information system with SPSS, the results of the calculations were distributed to 86 respondents. The outputs that can be obtained are:

1. Average questionnaire answer is 25.30
2. Variance of 19,503 and standard deviation of 4,417
3. Variable has a data range of 20 Maximum value of 35 and minimum value of 15.

Teacher's competence

Tabel 4.5 Statistics		
		KOMPETENSI DOSEN
N	Valid	86
	Missing	0
Mean		25,38
Median		26,00
Mode		26
Std. Deviation		4,543
Variance		20,639
Range		22
Minimum		15
Maximum		37

From the calculation of the computer variable competence of the lecturer with SPSS from the calculations of the lift spread to 86 respondents. From these outputs that can be obtained is ;

- Average questionnaire answer is 25.38
- Variance is 20,639 and standard deviation is 4,543
- Variable has a data range of 22
- Maximum value is 37 and minimum value is 15

Student Satisfaction

Tabel 4.6 Statistics		
		KEPUASAN MAHASISWA
N	Valid	86
	Missing	0
Mean		24,98
Median		25,00
Mode		21
Std. Deviation		4,309
Variance		18,564
Range		20
Minimum		15
Maximum		35

From the calculation of the variable computer satisfaction of students with SPSS from the calculations of the lift spread to 86 respondents. The outputs that can be obtained are:

- Average questionnaire answer is 24.98
- Variance is 18,564 and standard deviation is 18.564
- Variable has a data range of 20
- Maximum value is 35 and minimum value is 15

Discourse

The impact of academic information systems on STIA Banten student satisfaction

Table 4.7 Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.504 ^a	.254	.246	4.354

a. Predictors: (Constant), SISTEM INFORMASI AKADEMIK

Based on table 4.5 Model Summary results of calculations product moment/ coefficient correlation of the academic information system to student satisfaction of STIA Banten obtained a correlative coeffice value of 0.504 This means that there is a moderate influence of the Academic Information System on student satisfying of Banten STIA. Based upon table 4.7 Model summary of the contribution of the academic information systems to students satisfaction, Banten can be known through the determination factor RSquare x 100% or $0.254 \times 100\% = 25.4\%$ this means that the academia information system has an influence on

the students' satisfaction by Banten by 25.4% and the remainder by 74.6% influenced by other factors.

Tabel 4.8
Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	13,134	2,506		5,241	,000
	SISTEM INFORMASI AKADEMIK	,494	,089	,504	5,568	,000

a. Dependent Variable: KEPUASAN MAHASISWA

Based on the table 4.8 Coefficients^a, value (constant) = 13,134 and value B = 0,494 as well as the price thitung and the level of significance = 5,568 and 0,000. From the table of coefficients obtained equation simple regression calculation is Every increase in 1 score of the variable of the academic information system influences on the satisfaction of students STIA Banten by 0.494 score on the constant 13,134, assuming the competence variable lecturer value is constant.

Study Hypothesis 1

The academic information system has a positive and significant influence on the satisfaction of STIA Banten students. Subsequently, the study hypothesis 1 is presented as the following trial hypothetic.

H_0 : The academic information system has no positive and significant influence on the satisfaction of STIA Banten students. ($\beta_1 = 0$)

H_1 : The academic information system has a positive and significant influence on the satisfaction of STIA Banten students. ($\beta_1 \neq 0$)

The test statistics used are test-t.

Test criteria:

- Accept H_0 if Sig. value $\geq \alpha = 0.05$.
- Push H_0 , if sig. value $< \alpha = 0,05$.

From Table 4.8 Coefficients it is seen that the Sig value corresponding to the Academic Information System is 0,000. Since the Sig = 0,000 $< \alpha = 0,05$ then H_0 is rejected at the level of significance $\alpha = 0.05$ (5%). This means that the research hypothesis 1, namely: The academic information system has a positive and significant influence on the satisfaction of STIA students Banten received at the degree of significantity $\alpha = 0.05$ (5%).

Impact Of Lecturer Competence On Stia Banten Student Satisfaction.

Tabel 4.9
Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,418 ^a	,175	,166	4,579

a. Predictors: (Constant), KOMPETENSI DOSEN

Based on Table 4.7 Model Summary^b results of the calculation of product moment/ coefficient of correlation of the competence of the lecturer against the satisfaction of STIA

Banten students obtained the value of the corelation coefficient of 0.418 This means that there is a moderate influence of the faculty's competence on the contentment of the students of Stia Banten.

Based on the Table 4.9 7 Model Summaryb the contribution of faculty competence to student satisfaction of STIA Banten can be determined through the determination coefficient $RSquare \times 100\%$ or $0.175 \times 100\% = 17.5\%$ This means that the competence of the faculty has an influence on the satisfaction student of STia Banten of 17.5% and the remaining of 82.5% is influenced by other factors.

Thus, it can be concluded that the variation of STIA Banten student satisfaction determined by the competence of the lecturer, independently, is 17.5%, and the remaining 82.5% is defined by other variables not studied.

Tabel 4.10
Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	16,274	2,455		6,629	,000
KOMPETENSI DOSEN	,382	,087	,418	4,395	,000

a. Dependent Variable: KEPUASAN MAHASISWA

Based on the table 4.10 Coefficientsa, value (constant) = 16,274 and value B = 0,382 as well as count tprice and significance level = 4,395 and 0,000. From the table Coeffizientsa obtained equation of simple regression calculation is Every increase of 1 variable score of faculty competence influences the satisfaction of STIA Banten students by 0.382 score on a constant of 16.274 assuming the variable of the academic information system value is constant.

Study Hypothesis 2

The competence of the lecturer has a significant impact on the satisfaction of Stia Banten students. Subsequently, the study hypothesis 2 is presented as the following trial hypotheses.

H_0 : The competence of the lecturer has no positive and significant impact on the satisfaction of STIA Banten students. ($\beta_2 = 0$)

H_1 : The competence of the lecturer has a positive and significant influence on the satisfaction of STIA Banten students. ($\beta_2 \neq 0$)

The test statistics used are tests-t.

a) Test criteria:

- Accept H_0 if Sig. value $\geq \alpha = 0.05$.
- Push H_0 , if sig. value $< \alpha = 0,05$.

- From Table 4.10 Coefficients it is seen that the Sig value corresponding to the competence of the lecturer is 0,000. Since the Sig. value = $0,000 < \alpha = 0.05$ then H_0 is rejected at the level of significance $\alpha = 0,05$ (5%). This means that the study hypothesis 2, namely: the faculty's competence has a positive and significant influence on the satisfaction of STIA students Banten received at the degree of signifigation $\alpha = 0.5$ (5%)

Impact Of Academic Information Systems And Lecturer Competence On STIA Banten Student Satisfaction.

Tabel 4.11
Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.692 ^a	.479	.466	3,147	2,388
a. Predictors: (Constant), KOMPETENSI DOSEN, SISTEM INFORMASI AKADEMIK					
b. Dependent Variable: KEPUASAN MAHASISWA					

The result of the calculation of the product moment/ coefficient correlation between the academic information system (X1) and the competence of the lecturer (X2) towards student satisfaction (Y) obtained a value of R = 0.692 This means that there is a strong influence of the scientific information system and faculty competence jointly on the satisfaction of STIA Banten students.

To determine the contribution of the academic information system (X1) and the competence of the lecturer (X2) to student satisfaction (Y) can be determined through the determination coefficient R square $0.479 \times 100\% = 47.9\%$ This means that the educational information system and the faculty competence jointly influence the satisfaction of STIA Banten students by 47.9% and the remaining 52.1% is influenced by other factors.

Two important factors, namely the academic information system and the competence of the lecturer, show a positive and significant influence in improving the satisfaction of the students of STIA Banten. Moreover, seen from the determination coefficient, it appears that the level of diversity of 47.9% of the student satisfaction is due to the variation of the factors of the academical information system, and the faculty competence.

$$Y = a + bX_1 + bX_2$$

$$Y = 5,503 + 0,372X_1 + 0,397X_2$$

This equation means that :

- a) Each increase of 1 variable score of the academic information system affects the satisfaction of STIA Banten students by 0.372 at a constant of 5,503 assuming the variable of the faculty's competence is constant;

Tabel 4.12
Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	5,503	2,258		2,437	,017		
	SISTEM INFORMASI AKADEMIK	,372	,089	,381	4,170	,000	,752	1,330
	KOMPETENSI DOSEN	,397	,087	,418	4,576	,000	,752	1,330

a. Dependent Variable: KEPUASAN MAHASISWA

- b) Each increase of 1 variable score of faculty competence affects the satisfaction of STIA Banten students by 0.397 at a constant of 5,503 assuming the variable of the academic information system is constant;

Sensitivity analysis is performed to see the sensitivity of the bound variable to changes that occur in the free variable. For the purposes of this analysis is done by calculating Beta coefficients. The calculation is done with the help of the computer program SPSS Statistics 24. The results of the calculation can be presented as follows:

- (a) Each increase of 1 standard deviation variable of the academic information system (X_1) will increase 0.381 student satisfaction (Y) STIA Banten;
- (b) Every increase in 1 standard variable deviation of the faculty competence (X_2) will increase the satisfaction of 0.418 students (Y).

Tabel 4.13 ANOVA ^b						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	755,797	2	377,898	38,150	,000 ^a
	Residual	822,157	83	9,906		
	Total	1577,953	85			
a. Dependent Variable: KEPUASAN MAHASISWA						
b. Predictors: (Constant), KOMPETENSI DOSEN, SISTEM INFORMASI AKADEMIK						

The proposed research hypothesis is whether there is an influence of the academic information system and the competence of the lecturer jointly on the satisfaction of STIA Banten students or with the mathematical formula can be described as follows:

$H_0 : \rho = 0$ There is no influence of the academic information system and the faculty competence jointly on the satisfaction of STIA Banten students

$H_1 : \rho \neq 0$ There is an influence of the academic information system and the faculty's competence jointly on the satisfaction of STIA Banten students.

Interpretation: From the results of the processing of research data with the help of calculations SPSS Statistics 24 obtained a Fcount value of 38,150, while the size of Ftable with free degree (df) = 83 at $\alpha = (0,05)$ of 4,03. By proven Fcount > Ftable, it can be stated that the academic information system and the competence of the lecturer have a positive and significant influence jointly on the satisfaction of STIA Banten students.

CONCLUSIONS

Based on the results of research and analysis, the conclusion can be drawn is that: There is an influence of the academic information system on the satisfaction of students of STIA Banten of 25.4% and the remaining of 74.6% is influenced by other factors. There is a influence on the competence of lecturers on satisfaction students of Banten STIA of 17.5% and the rest of 82.5% is affected by other factor. There is an impact of the academic information system and the competence of the lecturer simultaneously on STIA Banten student satisfaction of 47.9% and the remaining 52.1% is influenced by other factors.

REFERENCE

- Afwan Hariri. 2009. The impact of Customer Delight on Customer Loyalty on Students of LBPP-LIA Malang. Malang : State University Malang
- Alma, Buchari. 2005. Marketing Management and Service Marketing. Print. 5. Bandung: CV Alfabeta
- Bart Van Looy, Paul Gemmel, Roland Van Dierdonck, 1998. Services Management An Integrated Approach. London : Financial Times/Pitman
- Ghozali, Priest. 2006. Multivariate Analysis Application With SPSS Fourth Printing Program. Currently: Diponegoro
- Gie University Publishing House, The Liang. 2000. Modern Office Administration. Liberty, Yogyakarta
- Jain, Subhash C. 2001. International Marketing Management. Jakarta : Erlangga.
- Jogiyanto. 2005. Information Systems Analysis and Design. Yogyakarta: Andi 2003. Human Resource Management for a Competitive Business.
- Mukminan. 2003. Tuntas Learning. Jakarta: Depdiknas.
- Mulyadi, Mohammad. 2014. Methods of Quantitative and Qualitative Practical Research. Jakarta : Publica Institute
- Poerwadarminta, WJS. 1993. General Dictionary of Indonesian Language. Jakarta: Riduwan Library Hall. 2009. Applications of Statistics and Research Methods to Administration and Management. Bandung : The Gods of the Holy Spirit
- Sagala, Syaiful. 2005 Concepts and Meaning of Learning. Bandung : CV. Alfabeta.
- Siagian Sondang P, 2001, Human Resources Management. Jakarta : PT. Bumi Aksara 2004.Theory of Motivation and Its Applications. Jakarta : PT. Rineka Creates
- Sugiyono.2010.Qualitative & RND Quantitative Research Methods. CV. Alfabeta. .2011. Quantitative, Qualitative and R&D Research Methods. CV. Afabeta
- Suparno, A. Suhaenah. 2001. Building Learning Competence. Jakarta: Directorate General of Higher Education Department of National Education
- Sutabri, Tata. 2012. Information Systems Analysis. Yogyakarta: Andi.
- Terry, G. R. 2000. Basics of Management. Translation Winardi. Bandung: Mandar Maju Yakub. 2012. Introduction to Information Systems. Yogyakarta: Graha Ilmu.