Evaluation of Academic Information System Using Delone and Mclean Success Model: A Case Study of Academic Information System Hasanuddin University

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Abstract

This study examines the effectiveness of the utilization (individual impact) of academic information systems at Hasanuddin University using the DeLone and McLean information system success model. Analyze future system development strategies and find the best solution that can be given to the information system management in the context of developing the information system itself. This model has seven hypotheses to examine the construct relationships including system quality predicts user satisfaction (H1), information quality predicts user satisfaction (H2), system quality predicts actual use (H3), information quality predicts actual use (H4), user satisfaction predicts actual use (H5a), actual use predicts user satisfaction (H5b), user satisfaction predicts individual impact (H6), and actual use predicts individual impact (H7). We use structural equation modeling with Partial Least Square technique. The results show that H1, H2, H6, H7 have a significant positive impact and the remaining hypothesis have no significant positive impact. In conclusion, indicators that influence the effectiveness of using the system are on the system quality variable and the quality of information with the greatest influence on the quality of information.

Keywords: Academic Services; Information Systems Success; DeLone and McLean; Individual Impact

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Introduction

Academic services in a university are one of the factors that support the creation of a conducive academic atmosphere for students and faculty members. The academic services include teaching and learning activities and administrative services for students and lecturers. One of the supporting infrastructure for academic services is an integrated Academic Information Systems with the aim of facilitating academic service activities for the academic community, especially for students and lecturers. An information system is an organized combination of people, software, hardware, communication networks, and data resources in collecting, transforming, and disseminating information within an organization (O'Brien, 2007). An organization uses an information system to support the effective and efficient operation of the organization. Moreover, information systems are also a key competitive differentiator (O'Brien, 2006), Organizations will use information systems to develop products, services, and capabilities that will give them an edge in competitive markets (Budiyanto, 2009).

There are technical and non-technical failures in an information system. The technical failures occur due to the poor technical quality of the information system including syntax errors, logical errors, and misinformation. Non-technical failures occur when user are reluctant to use the information system that has been developed (Jogiyanto, 2007). The success of system implementation is influenced by various complex factors. While the failure of system implementation, usually occurs because the system is not compatible with the business processes and information needed by the organization (Lucas et al, 1988).

In this study, we examine the academic information system (NeoSIA) that was developed and used by Hasanuddin University using DeLone and McLean information system success model. The NeoSIA is an application infrastructure used for supporting academic services on campus. The users of this service are students and faculty members (lecturers and staff). This study will examine the effectiveness of the utilization (individual impact) of the information system application by users with regard to the variable of the system and usage. Seeing the impact on users so that they can analyze future system development strategies and find the best solution that can be given to the information system management in the context of developing the information system itself. With the development of this information system, it is hoped that the academic services of Hasanuddin University can run smoothly and can satisfy its users.

Literature Review

Several studies have used the DeLone and McLean model to evaluate the success of academic information systems. Meilani, L. (2020) evaluated the quality of academic information systems (SIAKAD) and analyze the factors that influence the use, user satisfaction, and net benefits of SIAKAD at Sultan Ageng Tirtayasa University. Suaryana (2016) evaluated the quality of web-based academic information system in Faculty of Economy and Business (FEB) Udayana University (Unud) and its impacts to users' satisfaction. The users of this system are students, lectures, and academic staffs of FEB Unud. Sultono (2015) evaluated the academic information system in Indonesia University of Education (UPI) using structural equation modeling (SEM). An ex post evaluation by users of an information system (IS) dedicated to the automotive industry (XPPS) proposes by Roky and Al Meriouh (2015), which is based on the DeLone and McLean's information systems success model. Jumardi (2020) evaluated the benefits of the Academic Information System for students at the Bontang Technological College. Dalle et al. (2020) examines the adaptation of the DeLone and McLean information system success models that are commonly used in the university's information systems domain.

The model used Meilani (2020) is the information system success model from DeLone and McLean, and structural equation modeling (SEM) with Partial Least Square (PLS) analysis is used to analyze the factors that influence the successful implementation of SIAKAD. Suaryana (2016) study surveys the perception of students, lectures, and staffs and their satisfaction on the quality of the Academic Information System. The quality system includes three elements, information quality, the system quality, and the service quality. Roky and Al Meriouh (2015) using analysis of data by the technique of structural equation modeling confirms that information quality plays a key role in increasing user

satisfaction and intention to use of the system, the significance of the relationship between the quality of service and the use of the IS, the effect of both intention to use and use on individual impact and finally the positive influence of the individual impact on the organizational performance of XPPS. Jumardi (2020) research uses an adaptation of the success model of DeLone and McLean information systems with some modifications to assess the quality of Academic Information Systems. The study of Dalle et al. (2020) was based on the model by DeLone and McLean. Its focus was on assessing the quality of information systems that have been used in the selected university. Researchers evaluated the quality of each information system by focusing on the six major elements of the DeLone and McLean Model.

The results of hypothesis testing in Meilani (2020) study show that the quality of information systems and services have a significant positive effect on the use and satisfaction of users, and usage and user satisfaction have a significant positive effect on net benefits. In Suaryana (2016) the quality of web-based academic information system is expected to affect the satisfaction of the users, the study succeeded in proving the influence of system quality, information quality, and service quality on user satisfaction of WEB-based information systems at FEB Unud. The better the quality of the system, the quality of information, and the quality of service will increase the satisfaction of information system users at FEB Unud. Improved system quality, information quality, and service quality have been shown to increase user satisfaction of academic information systems. Evaluation results from Sultono (2015) show that all research variables and indicators have significant relations, also that the academic information system quality (system quality, information quality, and service quality) toward user satisfaction has a significant impact. Research discovery shows the necessity of periodical evaluation by the academic information system administrator with user participation, to ensure users need fulfillment. Roky and Meriouh (2015) study provides an empirical validation of the IS success model developed by DeLone and McLean in the automotive industry, a little investigated topic in the literature, and shows the managerial implications of using such a model. From Jumardi (2020) research the research prove that user satisfaction and user involvement are influenced by the quality of the system and the quality of information. User Involvement and User Satisfaction significantly influence net benefits. From data analysis from Dalle et al. (2020) research shows the quality of the system, the quality of information, and the impact of the individual are the determining factors for the success of the information system at the university so it is very important that the information system at the university is designed so that it is easy to use, flexible, and functional to meet its objectives.

Methodology

The selection of the method must consider several aspects such as the objectives of the research, the context of the organization using it, aspects of the information system, and the independent variables used to assess its success, the research method, and the level of analysis whether at the individual, organizational, or community level. The DeLone and McLean model is an information system success model that has been widely applied by researchers in Indonesia and abroad. This model is used as the basis for the initial hypothesis of the research in the technical preparation of data collection. The research questions based on the 6 measurements used in the DeLone and McLean model are as follows (Jogiyanto, 2007):

1. Does the perceived information quality have a positive effect on user satisfaction?
2. Does the perceived system quality have a positive effect on user satisfaction?
3. Does the perceived information quality have a positive effect on its use?
4. Does the perceived system quality have a positive effect on its use?
5. Does user satisfaction have a positive effect on system use?
6. Does use have a positive effect on user satisfaction?
7. Does the use of the system have a positive effect on individual impact?
8. Does user satisfaction have a positive effect on individual impact?

The theoretical framework in this study adopts the DeLone and McLean information system success model used by Iivari (2005) to conduct studies on the application to public sector organizations of mandatory use information systems, the model used is as follows in Figure 1:

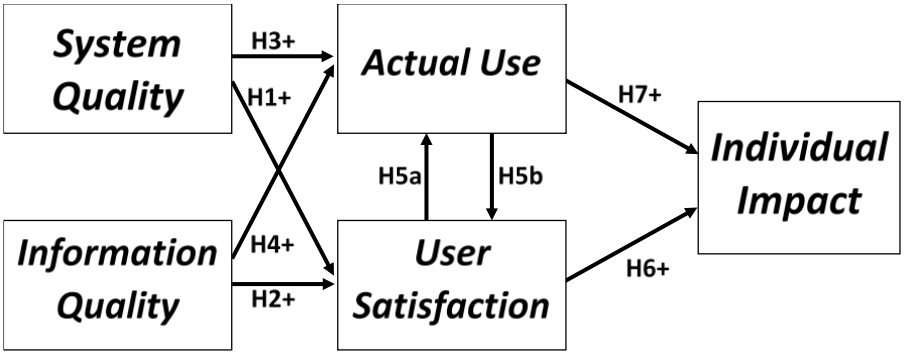

Figure 1. Application of the DeLone and McLean Model in the Public Sector of Oulu City, Finland (Iivari, 2005)

H1: Perceived system quality predicts user satisfaction
H2: Perceived information quality predicts user satisfaction
H3: Perceived system quality predicts actual use
H4: Perceived information quality predicts actual use
H5a: User satisfaction predicts actual use
H5b: Actual use predicts user satisfaction available
H6: User satisfaction predicts individual impact
H7: Actual use predicts individual impact

Population and Research Sample

In this study, the population is the users of the NeoSIA Academic Information System in the Unhas which consists of students, faculty members, and administration staff. The sampling method that used in this research is purposive sampling, which is a sampling method based on certain criteria.
According to Hair et al. (2014) for determining the sample size for (SEM) is the sample size is 5-10 times the number of indicators, this formula is used because the number of populations is undefined. So in this study, we take a sample size of 140 respondents from 28 (number of indicators) x 5.
The data collected from questionnaire using google form and distributed online, total of collected respondents is 140 with 46 lecturers/staff (33%) and 94 students (67%)

Variables and Operational Definitions

The questionnaire is designed based on 5 (five) variables including System Quality, Information Quality, User Satisfaction, Actual Use, and Individual Impact. The five variables and the Questionnaire Model refer to the questionnaire used by Iivari (2005) which applies the DeLone and McLean model in the public sector, the variables and questionnaire model are described as follows:

1. Quality System adapted from Bailey and Pearson (1983) which consists of six scales as follows: Flexibility of the system; integration of the system; response time/change (response/turnaround time); troubleshooting (error recovery); convenience of access; and Language. Each of these scales is measured using four items as proposed in the original source.
2. Information quality (information quality) was adapted from Bailey and Pearson (1983) which consists of six scales as follows: Completeness; accuracy; accuracy; reliability; current (currency); and format of output. Each of these scales is measured using four items as proposed in the original source.
3. User satisfaction using six items adapted from Chin et al. (1988)
4. Actual use in the form of items: Daily use time and frequency of use.
5. Individual impact is associated with the work performance of system users and is measured by a six-item instrument proposed by Davis (1989).

Data analysis method

The model was analyzed using SEM. SEM allows the analysis of a series of relationships simultaneously to provide statistical efficiency (Hair et al., 2014). SEM was used to assess the relationship between the constructs simultaneously and also to assess the testing power of the research model. The Partial Least Squares (PLS) technique was chosen because this tool is widely used for complex causal-predictive analysis and is a suitable technique for theory development research as in this study (Jogiyanto, 2007). PLS does not require a lot of assumptions. The data does not have to be multivariate normally distributed and the number of samples does not have to be large (recommends between 30-100) (Ghozali, 2008). Because the number of samples used in this study was less, PLS was used as an analytical tool. To perform testing with component-based SEM or PLS, we use an application software called SmartPLS version 2.0 (Budiyanto, 2009).

Meanwhile, in this study, the DeLone and McLane Information System Success model will be applied to the public sector which tests 5 (five) variables, namely System Quality, Information Quality, User Satisfaction, Real Use, and Individual Impact, then the model is analyzed by structural equation modeling (SEM) based on partial (partial-least-square-based). The object of this research is users of academic information systems at Hasanuddin University Makassar City.

Result

DeLone and McLane Model Analysis

Test Outer Model

The outer model is a model that specifies the relationship between latent variables/contracts and their indicators or it can be said that the outer model defines how each indicator relates to its construct. The outer model is interpreted by looking at several things, including convergent validity, discriminant validity, composite reliability, Average Variance Extracted (AVE), and Cronbach's alpha.

1) Convergent validity
   Convergent value is measuring the magnitude of the loading factor for each construct. A loading factor above 0.70 is highly recommended, however, a loading factor between 0.5 - 0.60 can still be tolerated as long as the model is still in the development stage. The complete PLS Algorithm model and loading indicator values are presented in Figure 2 and Table 4.

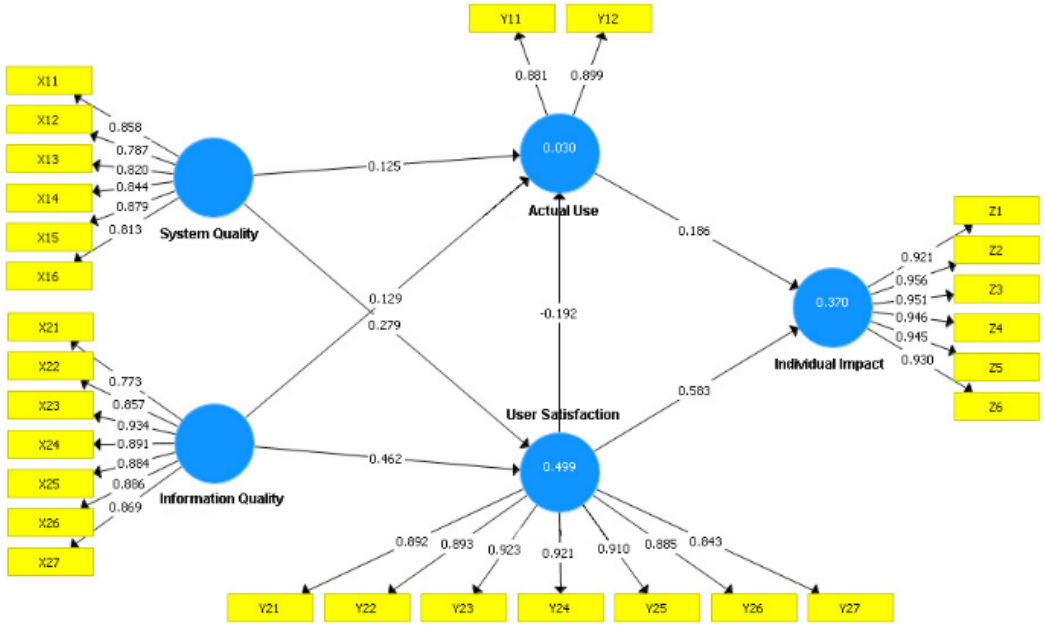

Figure 2. PLS Algorithm Model

Table 1. Loading Indicator Value

Indicator	Individual Impact	User Satisfaction	Information Quality	System Quality	Actual Use
X11				0.858	
X12				0.787	
X13				0.820	
X14				0.844	
X15				0.879	
X16				0.813	
X21			0.773		
X22			0.857		
X23			0.934		
X24			0.891		
X25			0.884		
X26			0.886		
X27			0.869		
Y11					0.881
Y12					0.899
Y21		0.892			
Y22		0.893			
Y23		0.923			
Y24		0.921			
Y25		0.910			
Y26		0.885			
Y27		0.843			
Z1	0.921				
Z2	0.956				
Z3	0.951				
Z4	0.946				
Z5	0.945				
Z6	0.930				

Table 1 shows the loading indicator value where all indicators in each construct have a loading value > 0.7 means that each indicator is valid as a measure of the construct.

2) Discriminant validity.
The discriminant value is useful for assessing whether the variable has adequate discriminant validity, by comparing the indicator correlation with the intended construct, it must be greater than the correlation with other constructs. If the indicator correlation value has a higher than the indicator correlation with other constructs, it means that the variable has high discriminant validity.

Table 2. Cross Loading Value

Indicator	Individual Impact	User Satisfaction	Information Quality	System Quality	Actual Use
X11	0.652	0.610	0.722	***0.858***	0.124
X12	0.691	0.541	0.639	***0.787***	0.037
X13	0.495	0.464	0.598	***0.820***	0.066
X14	0.623	0.500	0.678	***0.844***	0.115
X15	0.623	0.583	0.688	***0.879***	0.097
X16	0.520	0.536	0.682	***0.813***	0.072
X21	0.461	0.476	***0.773***	0.514	0.099
X22	0.624	0.673	***0.857***	0.705	0.054
X23	0.592	0.595	***0.934***	0.725	0.070
X24	0.561	0.551	***0.891***	0.668	0.127
X25	0.566	0.646	***0.884***	0.781	0.060
X26	0.583	0.591	***0.886***	0.699	0.075
X27	0.594	0.624	***0.869***	0.772	0.119
Y11	0.134	-0.051	0.061	0.081	***0.881***
Y12	0.173	0.009	0.110	0.103	***0.899***
Y21	0.514	***0.892***	0.657	0.580	0.003
Y22	0.483	***0.893***	0.583	0.566	-0.041
Y23	0.534	***0.923***	0.600	0.582	-0.048
Y24	0.486	***0.921***	0.594	0.547	-0.038
Y25	0.571	***0.910***	0.686	0.655	-0.029
Y26	0.529	***0.885***	0.607	0.590	0.067
Y27	0.502	***0.843***	0.565	0.548	-0.056
Z1	***0.921***	0.526	0.600	0.699	0.162
Z2	***0.956***	0.550	0.617	0.694	0.177
Z3	***0.951***	0.548	0.606	0.690	0.148
Z4	***0.946***	0.540	0.641	0.678	0.171
Z5	***0.945***	0.565	0.642	0.666	0.181
Z6	***0.930***	0.540	0.599	0.663	0.138

Table 2 shows cross-loading value of the loading indicator. For X11-X16 indicators, the loading value of system quality has the highest value. For X21-X27 indicators, the loading value of information quality has the highest value. For X11-X12 indicators, the loading value of actual use has the highest value. For X21-X27 indicators, the loading value of user satisfaction has the highest value. For Z1-Z6 indicators, the loading value of individual impact has the highest value.

3) Composite Reliability

A high composite reliability value indicates a good consistency of each indicator in the construct. The criterion of composite reliability value of above 0.7 indicates that the variable has good internal consistency. The complete composite reliability value is presented in Table 3.

Table 3. Composite Reliability Value

Construct	Composite Reliability
Individual Impact	0,979
User Satisfaction	0.966
Information Quality	0.957
System Quality	0.932
Actual Use	0.884

4) Average Variance Extracted (AVE)
Table 7 shows the AVE value, that is, the value of the variance on each indicator in the construct that can be captured by these variables is more than the variance caused by measurement errors. The expected AVE value is above 0.5. As shown in table 6, the individual impact has the highest AVE value than other constructs.

Table 4. Average Variance Extracted (AVE) Value

Construct	Average Variance Extracted (AVE)
Individual Impact	0.887
User Satisfaction	0.802
Information Quality	0.760
System Quality	0.696
Actual Use	0.793

In addition to the AVE value, the evaluation of discriminant validity can use the Fornell-Larchker test which is seen in the correlation value between the construct and the AVE root (see Table 5). The AVE root value is expected to be higher than the correlation value among the constructs.

Table 5. AVE root value and correlation between constructs

Construct	Individual Impact	User Satisfaction	Information Quality	System Quality	Actual Use
Individual Impact	**0,942**				
User Satisfaction	0.579	**0.895**			
Information Quality	0.656	0.687	**0.872**		
System Quality	0.724	0.651	0.804	**0.834**	
Actual Use	0.173	-0.022	0.097	0.104	**0.890**

Table 8 shows that the value in the diagonal direction box is the root value of AVE and the other values are correlations among constructs. The AVE root value of individual impact is higher than other constructs.

5) Cronbach's Alpha
The reliability test was strengthened by Cronbach's alpha value. Cronbach's alpha reliability test limits > 0.7. The results of Cronbach's alpha values in full are presented in Table 6.

Table 6. Cronbach's Alpha Values

Construct	Cronbach's Alpha
Individual Impact	0.974
User Satisfaction	0.959
Information Quality	0.947
System Quality	0.912
Actual Use	0.739

Structural Model Test (Inner Model)

Structural model test is done by looking at the value of R2 (R-Square) and f2 (effect size, goodness of fit index (GoF)), which is the Goodness of the fit model test.

1. R^2 (R-Square)
   The R-square value was obtained on the endogenous construct with the provision that if it was generated from the model with an R-square value of 0.75 (strong model), 0.50 (moderate model), and 0.25 (weak mode). The individual impact construct has an R^2 value of 0.370 indicating that the variation in the individual impact can be explained by the actual use construct and user satisfaction of 37.0% (0.370 x 100%). while the remaining 63.0% (100% - 37.0%) is explained by other variables outside research. Likewise, with the user satisfaction construct with an R2 value obtained of 0.499 or 49.9%. This value indicates that the variation of the user satisfaction construct can be explained by the system quality and information quality constructs of 49.9%. While the R-square value of actual use only obtained 0.030 or 3%. The results of the complete R-square value are presented in Table 7.

Table 7. R-Square Value

Construct	R Square
Individual Impact	0,370
User Satisfaction	0.499
Actual Use	0.030

2. The value of f^2 (effect size)
   Changing the value of R-squares can be used to explain the effect of exogenous constructs on endogenous constructs whether they have a substantive effect. The evaluation criteria for f2 are 0.02 less effect, 0.15 moderate/middle effect and 0.35 large effect. The results of the full value of f2 (effect size) are presented in Table 8.

Table 8. Value of f2 (effect size)

Construct	Individual Impact	User Satisfaction	Actual Use
User Satisfaction	0,539		0.019
Actual Use	0.055		
Information Quality		0.151	0.005
System Quality		0.055	0.005

3. Goodness of fit index (GoF)
   GoF index is for the evaluation of the measurement model and the structural model for the overall prediction of the model. The GoF value is calculated from the square root value of the average community index with average R-squares with the criteria of 0.10 small GoF, 0.025 medium, and 0.36 large category. The results of the GoF value are presented as follows:

$$GoF = \sqrt{\overline{com}\ X\ \overline{R^2}}$$

$$GoF = \sqrt{0.787\ X\ 0.300}$$

$$GoF = \sqrt{0.235}$$

$$GoF = 0.485$$

From the results of the calculation of the GoF value obtained at 0.486, it can be concluded that the model has a large GoF category.

The next test is to see the significant effect between independent constructs on the dependent constructs and answer what has been hypothesized. Tests with a significance level of 5% if the t-statistic value > 1.96 then the null hypothesis (H0) is rejected. The t-statistical value of the coefficient of influence of the construct was obtained from PLS Bootstrapping. The results of the PLS Bootstrapping Model are presented in Figure 3.

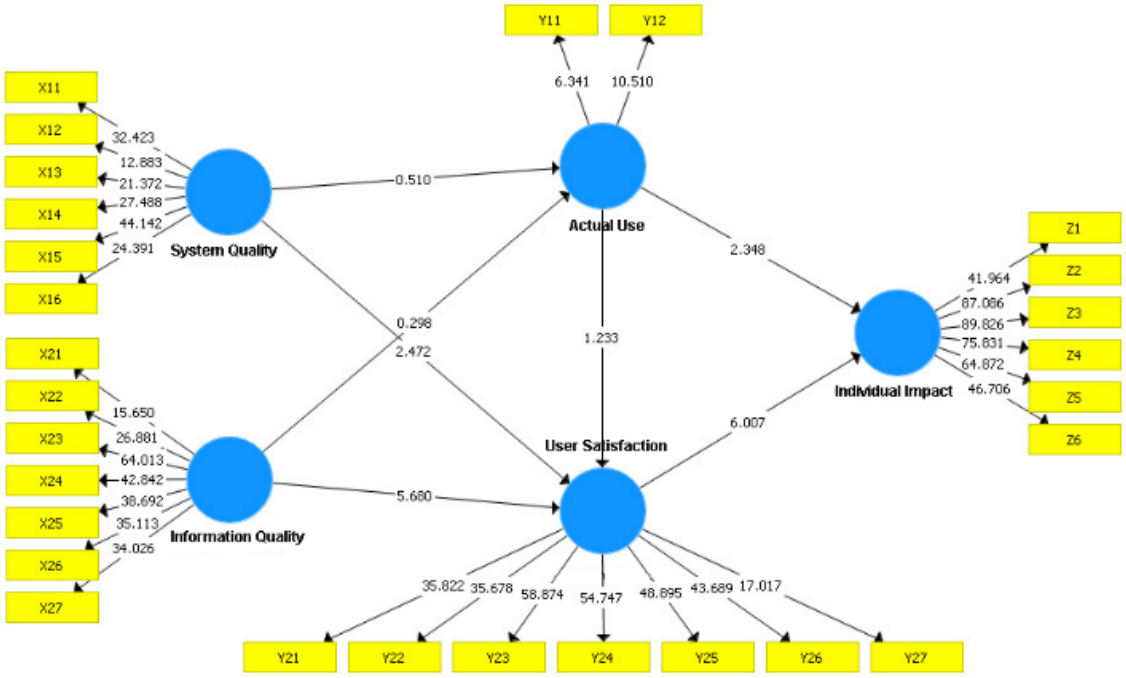

Figure 3. The 1st PLS Bootstrapping Model

Parameter coefficient values can be seen in the original sample value, error value (standard deviation), t-statistics, and p-values can be seen in Table 9.

Table 9. Coefficient Value (Original Sample), Standard Error and T-Statistics

Effect	Original Sample (O)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
User satisfaction → Individual impact	0,583	0.092	6.341	0.000
User satisfaction → Actual use	-0.192	0.147	1.308	0.191
Information quality → User satisfaction	0.462	0.083	5.545	0.000
Information quality → Actual use	0.129	0.142	0.904	0.367
System Quality → User satisfaction	0.279	0.109	2.569	0.010
System Quality → Actual use	0.125	0.145	0.860	0.390
Actual use → Individual impact	0.186	0.078	2.380	0.018

- Hypothesis 1
  The coefficient value of the influence of system quality on user satisfaction is 0.279, the standard error value is 0.109, the t-statistic value is 2.569 and the p-value is 0.010. Because the t-statistic value is 2.569 > 1.96, then reject H0. This indicates that the quality of the system has a significant positive effect on user satisfaction.
- Hypothesis 2
  The coefficient value of the influence of information quality on user satisfaction is 0.462, the standard error value is 0.083, the t-statistic value is 5.545 and the p-values are 0.000. Because the t-statistic value is 5.545 > 1.96, then reject H0. This indicates that the quality of information has a significant positive impact on user satisfaction.
- Hypothesis 3
  The coefficient value of the influence of system quality on actual use is 0.125, the standard error value is 0.145, the t-statistic value is 0.860 and the p-values is 0.390. Because the t-statistic value is 0.390 < 1.96, then accept H0. It can be concluded that the quality of the system has no significant positive impact on actual use.
- Hypothesis 4
  The coefficient value of the influence of information quality on actual use is 0.129, the standard error value is 0.142, the t-statistic value is 0.904 and the p-values is 0.369. Because the t-statistic value is 0.369 < 1.96, then accept H0. This indicates that the quality of information has no significant positive impact on actual use.
- Hypothesis 5a
  The coefficient value of the effect of user satisfaction on actual use is -0.192, the standard error value is 0.147, the t-statistic value is 1.308 and the p-value is 0.191. Because the t-statistic value is 1.191 < 1.96, then accept H0. This indicates that user satisfaction has no significant positive impact on actual use.
- Hypothesis 6
  The coefficient value of the influence of user satisfaction on the individual impact is 0.583, the standard error value is 0.092, the t-statistic value is 6.341 and the p-values are 0.000. Because the t-statistic value is 6.341 > 1.96, then reject H0. This indicates that user satisfaction has a significant positive impact on individual impacts.
- Hypothesis 7
  The coefficient value of the actual use effect on the individual impact is 0.186, the standard error value is 0.078, the t-statistic value is 2.380 and the p-value is 0.018. Because the t-statistic value is 2.380 > 1.96, then reject H0. This indicates that actual use has a significant positive impact on individual impacts.

- Hypothesis 5b
  For testing hypothesis 5b, because SmartPLS cannot perform tests with reciprocal models such as user satisfaction with actual use and actual use on user satisfaction. So the 2nd PLS bootstrapping test was carried out to produce the model estimate.

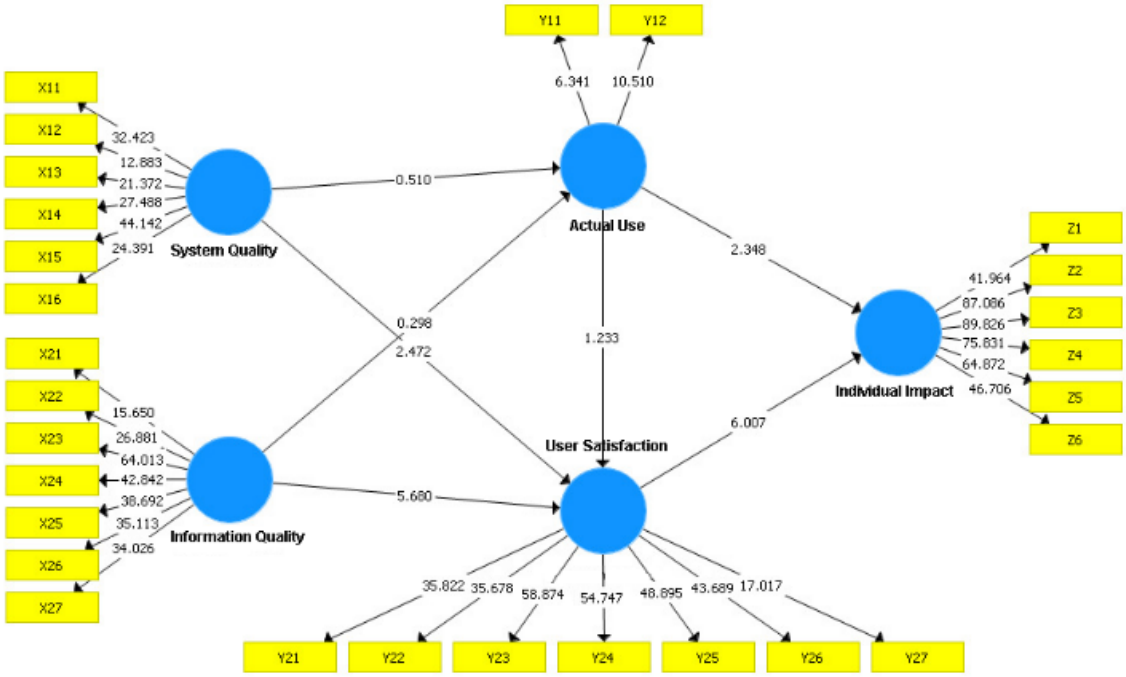

Figure 4. 2nd PLS Bootstrapping Model

Table 10. The value of the coefficient of influence

Effect	Original Sample (O)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Actual Use → User satisfaction	-0,096	0.078	1.233	0.218

The coefficient value of the actual use effect on user satisfaction is -0.096, the standard error value is 0.078, the t-statistic value is 1.233 and the p-values is 0.218. Because the t-statistic value is 1.233<1.96, then accept H0. This indicates that actual use has no significant impact on user satisfaction.

Discussion

As we can see in Table 11 below, System quality and information quality have a significant positive impact on user satisfaction (H1 and H2). This indicates an increase in the quality of information and the quality of information will increase user satisfaction. Meanwhile, on Actual use, System Quality, and Information Quality, there is no significant positive relationship (H3 and H4). These results indicate that changes in System Quality and Information Quality have little impact on Actual use. This is because users access the NeoSIA at certain time including when students register for courses/classes at beginning of semester and when faculty members input the students' grade at the end of semester. So that the intensity of use will not be affected by the quality of the system and information.

Table 11. Conclusion of Test Results (significance level 5% if the t-statistic value > 1.96 then the null hypothesis (H0) is rejected)

Hypothesis	Effect	T Statistics	Conclusions
H1	System Quality → User satisfaction	2.569	*significant positive effect*
H2	Information quality → User satisfaction	5.545	*significant positive effect*
H3	System Quality → Actual use	0.860	*no significant positive effect*
H4	Information quality → Actual use	0.904	*no significant positive effect*
H5a	User satisfaction → Actual use	1.308	*no significant positive effect*
H5b	Actual use → User satisfaction	1.233	*no significant positive effect*
H6	User satisfaction → Individual impact	6.341	*significant positive effect*
H7	Actual use → Individual impact	2.380	*significant positive effect*

The relationship between user satisfaction and actual usage (H5a and H5b) gives a positive insignificant relationship. These results indicate that these two variables do not affect each other, the level of satisfaction will not change the intensity of use and the intensity of use will not change the level of user satisfaction, because the NeoSIA application is an information system application that is mandatory for the needs of academic activities. The Individual Impact of Actual use and User Satisfaction variables (H6 and H7) provide a significant positive relationship. This hypothesis shows that the effectiveness of NeoSIA at the user level is influenced by the intensity of use and user satisfaction.

Conclusions

In the study, it can be concluded that the indicators that have an influence on the effectiveness of the use of the system (user satisfaction and individual impact) are on the system quality variable and the quality of information with the greatest influence on the quality of information. So if we want to improve the quality of information, we need to improve the volume of information The actual use variable is not so affected by the condition of the system and also has little effect on the individual impact. But it is possible that by modifying the indicators on the quality variable, indicators will be found that can affect actual use, further study is needed to see the factors for enhance the quality that can encourage more people to use the system.

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How to cite:
Rachmat, A., Hamzah, B., Niswar, M. 2022. " Evaluation of Academic Information System Using Delone and Mclean Success Model: A Case Study of Academic Information System Hasanuddin University," *Jurnal Sistem Informasi (Journal of Information System)* (18:1), pp. 62-75.