The Key to Success in Implementing College E-Learning Systems During the Covid 19 Pandemic

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Abstract

During the Covid-19 Pandemic, changing the learning system to be online-based, learning using e-learning, zoom or google meet. The purpose of this study was to determine student satisfaction with the implementation of e-learning in terms of Information Quality (IQ), System Quality (SQ), Service Quality (SEQ), User (U), User Satisfaction (US) and the net benefits (NB) received by students. The population in this study are students at private universities who use eLearning in their learning system. A sample of 353 respondents using certain criteria. Questionnaire as a research instrument by using an online application. Data analysis using SEM PLS. The results showed that Information Quality (IQ), System Quality (SQ), Service Quality (SEQ) had an effect on User (U) and User Satisfaction (US). The findings of this study also show that User (U) and User Satisfaction (US) is capable of moderating between Information Quality (IQ), System Quality (SQ), Service Quality (SEQ) and net benefits (NB) received. The learning system using eLearning is able to transfer the knowledge of lecturers to students.

I. Introduction

The COVID-19 pandemic has changed the world of education starting from the learning process, which is usually done in the classroom face-to-face, but since the pandemic it has changed to online learning (in the network). Web centric course is the use of the internet that combines distance learning and face to face (Lindsey et al., in Syakur, 2020). One learning strategy that can improve student activity and facilitate the teaching and learning process by utilizing information technology is blended learning (Izzudin in Prasasti, 2019). In the online learning scenarios according to Khan in Reotutar (2020) where the building of an online curriculum is mostly instinctive. Lecturers and students are required to be able to present an effective and active learning process even though it is carried out from their respective homes. The form of information technology development that can be used as a learning medium is using e-learning, which is a form of learning method that is perceived to be student centered. The use of e-learning is expected to motivate the improvement of the quality of learning and teaching materials, the quality of student activities and independence, as well as communication between lecturers and students as well as between students. Students can interact with lecturers using several applications, including zoom, google classroom or through whatsapp group. Previous research on testing the success of information systems using the model developed by DeLone and McLean has been widely carried out, with modifications to the original model. Dalimunthe and Pertiwi (2018), using the DeLone and McLane method on SIKAD with four dimensions, the results of the study show that service quality has no effect on customer satisfaction, but overall the

implementation of this model is successful. The results of Yuliana's research (2016) Using six dimensions, namely System Quality, Information Quality, Usage, User Satisfaction, show the success of implementing the model on individual impacts and organizational impacts. Hudin and Riana's different research results. (2016) the results of research on AIS users prove that the quality of information and service quality have no significant effect on the use variable, but other variables have a significant effect so that the model is declared appropriate as a whole. Based on previous research and the problems faced by private universities that implement the E-Learning system, this study uses the DeLone and MCLane models with dimensions namely information systems, information quality, service quality, system use, system user satisfaction and perceived net benefits. (benefits). DeLone and McLean.(2003).

This research really needs to be done, the results of this research are expected to provide input for Private Higher Education X as an evaluation of the success of the e-learning information system at Higher Education X by using the Information System Success Model Update 2003 during the Covid 19 pandemic for the 2020-2021 Academic Year.

Conceptual Framework
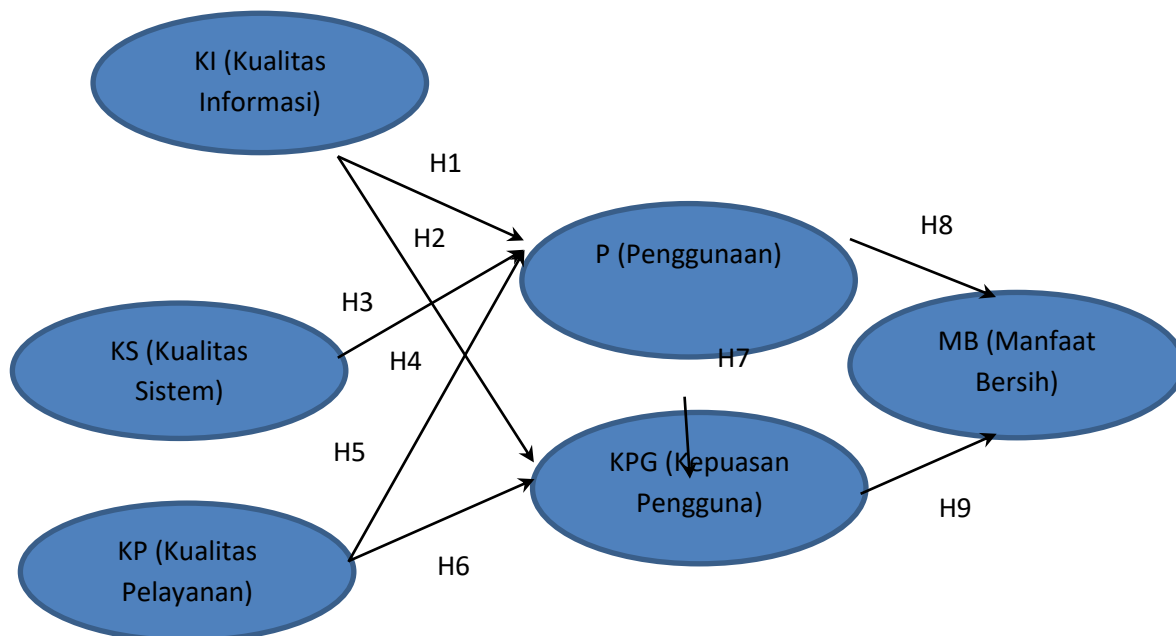
Figure 1. *Conceptual Framework*

Hypothesis:
H1: The quality of information affects the use
H2: The quality of the system affects the use
H3: Service quality has an effect on usage
H4: Information quality has an effect on user satisfaction
H5: The quality of the system has an effect on user satisfaction
H6: Service quality has an effect on user satisfaction
H7: Usage affects user satisfaction
H8:Usage affects net benefits
H9:User satisfaction affects net benefits

II. Research Methods

This research is explanatory, conducted in 2021 at one of the private universities in Surabaya. In this study, the population was all students who were active in the 2020 academic year as e-learning users as many as 2864 students. The sampling technique used the Slovin technique. Then the number of samples used = 353 respondents. The data was obtained by using a questionnaire through the google form application.

Variable Operational Definition. System Quality (System Quality) is the respondent's response to the quality of information technology systems that focus on system performance concerning access convenience, system flexibility and security. The indicators used consist of Ease of Use, System Reliability, Access Speed, System Flexibility, and System Security.

Information Quality is the respondent's response to the characteristics of system performance such as completeness, convenience of access, security, timeliness, accuracy, which is presented by a good information system on a website. Indicators are Completeness, Relevance, Accuracy, and Timeliness.

Service Quality is the perception or user of the quality of services provided by information system developers. Indicators developed by Yogiyanto (2007) are speed of problem handling, sincerity in handling problems and individual attention

Use (Use) is the respondent's response to the use of the output of a system by the recipient or the use and interest in using it as an alternative from the user which consists of the nature of the user.

User Satisfaction (User Satisfaction) is the response to the use of the output of the information system which consists of information satisfaction, overall satisfaction.

Net Benefit (Net Benefit) is the respondent's response about the benefits of information on the behavior of use and the effect of information on organizational performance. Indicators used Increase knowledge, Effectiveness of Communication

Data analysis uses Partial Least Square (PLS), PLS analysis test uses two evaluations, namely the measurement model: (1) Outer Model to test validity and reliability, (2) Inner Model to test causality

III. Discussion

3.1 Results
a. Characteristics of Respondents

Characteristics of respondents consist of: gender, study program and generation. Characteristics of the sex of the respondents, showing 353 e-learning users, the male gender is 96 respondents or 27.2%, while the female gender is 257 or 72.8%

Study program: 33 respondents or 9.3% of the respondents of the Accounting D3 study program, 28 respondents or 7.9% of the Management D3 study program, 155 respondents or 43.9% of the Accounting S1 study program and 137 respondents or 38.8% of the Management S1 study program.

Class / Year of entry: Class of 2017 as many as 54 respondents or 15.3%, Class of 2018 as many as 63 respondents or 17.8%, Class of 2019 as many as 119 respondents or 33.7%, Class of 2020 as many as 117 respondents or 33.1%

b. Outer Model

The test results show that the model loading factor value is greater than 0.7, so it can be concluded that all indicators have good convergent validity (fulfilled). The AVE (Average Variance Extracted) values for each variable are all above 0.50 so that it can be stated that the overall the variable has met the requirements of convergent validity, so it can be concluded

that the Discriminant Validity can be used (appropriate to use) and the Cronbach's Alpha value is greater than 0.70 then the model has met the reliability test requirements.

c. Inner Model

Testing of the inner model or structural model is carried out to test the relationship between latent constructs. The value of the coefficient of determination, the R-Square value for Use (U) of 0.452 indicates that the three variables Information Quality, System Quality (SQ) and Service Quality (SEQ) can affect Use (U) of 45.2%. While the R-Square User Satisfaction (US) value of 0.620 indicates that the four variables Information Quality (IQ), System Quality (SQ), Service Quality (SEQ) and Use (U) can affect User Satisfaction (US) by 62.0%. , while the R-Square Net Benefit (NB) value of 0.533 means that the two variables Use (U) and User Satisfaction (US) can affect the Net Benefit (NB) by 53.3%. Q-Square Predictive value rel.
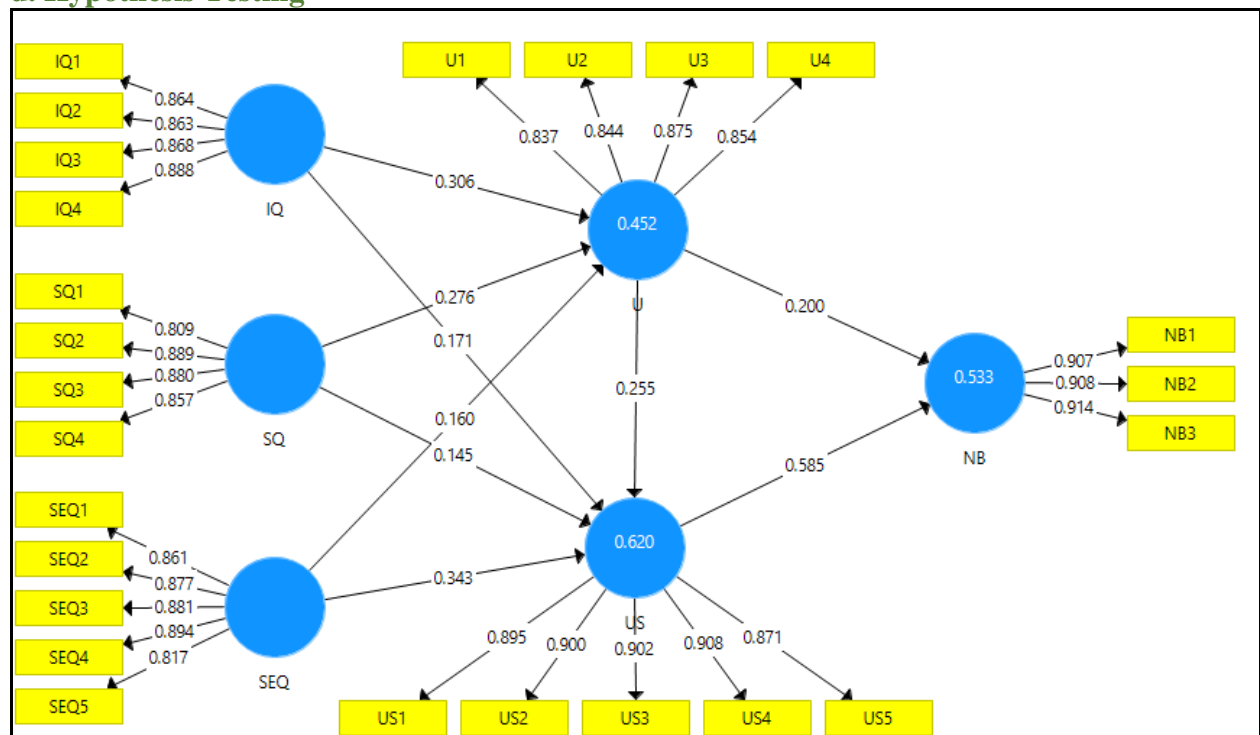
d. Hypothesis Testing

Figure 1. Results of model testing with PLS

Table 1. Results of Path Coefficient and P-Value

Direct Relationship	Path Coefficient	P-Value	explanation
IQ -> U	0,306	0,000	Signifikan
IQ -> US	0,171	0,018	Signifikan
SQ -> U	0,276	0,000	Signifikan
SQ -> US	0,145	0,045	Signifikan
SEQ -> U	0,160	0,006	Signifikan

SEQ -> US	0,343	0,000	Signifikan
U -> US	0,255	0,000	Signifikan
U -> NB	0,200	0,003	Signifikan
US -> NB	0,585	0,000	Signifikan

Source: processed data (2021)

Based on Table 1. shows the following results:
1. Information Quality Affects Users
2. Information Quality Affects User Satisfaction
3. System Quality affects Use
4. System Quality affects User Satisfaction
5. Service Quality affects Use
6. Service Quality has an effect on Use satisfaction
7. Use affects User Satisfaction
8 Use affects Net Benefit
9. User Satisfaction affects Net Benefit

Table 2. Indirect Effects Calculation Results

	Path Coefficient	*P-Value*	explanation
IQ -> U -> NB	0,061	0,023	Signifikan
SQ -> U -> NB	0,055	0,011	Signifikan
SEQ -> U -> NB	0,032	0,042	Signifikan
U -> US -> NB	0,149	0,000	Signifikan

Source: Processed Data (2021)

3.2 Discussion
a. Effect of Information Quality (IQ) on Use (U) and User Satisfaction (US)

Based on the hypothesis test, the results show that Information Quality has a significant positive effect on Use. This is in accordance with research conducted by (Juhani Iivari, 2005) which states that the quality of information has a significant positive effect on users. The quality of information in e-learning can increase the intensity of the nature of the user, the higher the quality of information in e-learning will be followed by an increase in users, this is supported by filling out questionnaires by respondents through the Information Quality construct which consists of four questions and has the highest loading factor value, namely Format of Output. (information on output). Information Quality has a significant positive effect on User Satisfaction. This is in accordance with research conducted by (Jumardi et. Al., 2015) which states that the quality of information has a significant positive effect on user satisfaction. The quality of information on e-learning can increase the intensity of the nature of user satisfaction, the higher the quality of information on e-learning will be followed by an increase in user satisfaction, this is supported by filling out questionnaires by respondents through the Information Quality construct which consists of four questions and has the highest loading factor value. of Output (information on output). Finally, the existing E-learning must be maintained and continue to apply the quality of information that can increase user satisfaction. Users will feel the quality of the information presented so as to

increase satisfaction, this study also supports the success model of information systems (Delone and Mclean, 2003). Information quality affects user satisfaction, so that information quality on user satisfaction can be said to be successful. While the lowest indicator based on the loading factor is precision with the statement that e-learning will provide lecture information that is in accordance with their respective majors. This shows that the results of observations on the precision indicator are less varied, so information that is appropriate for each department must be improved so that it can contribute more to the use of student e-learning.

b. Effect of System Quality (SQ) on Use (U) and User Satisfaction (US)

System Quality has a significant positive effect on Use, this result is in accordance with research conducted by (Juhani Iivari, 2005) which states that system quality has a significant positive effect on users. The quality of the system in e-learning can increase the intensity of the nature of the user, the higher the quality of the system in e-learning will be followed by an increase in users, this is supported by filling out questionnaires by respondents through the System Quality construct consisting of four questions and having the highest loading factor value is Time to Respond. (time to respond), response speed is expected by users. System Quality has a significant positive effect on User Satisfaction. This is in accordance with research conducted by (Anisa Dwi Handini, 2017) providing empirical evidence that system quality has a positive effect on user satisfaction. Information systems on e-learning can increase the intensity of the nature of user satisfaction, the higher the information system on e-learning will be followed by an increase in user satisfaction, this is supported by filling out questionnaires by respondents through the System Quality construct which consists of four questions and has the lowest loading factor value. Flexibility (flexibility of the system) is less varied, it is expected that the flexibility of the system or reduce the rigidity in making the system to be considered so that users will feel satisfied by the quality of the system itself. Furthermore, the time to respond indicator shows that users feel that the existing e-learning will provide a quick response to get information. While the system flexibility indicator shows that users feel less agree if the existing e-learning provides access to be not rigid and easy to use.

IV. Conclusion

Service quality has an effect on the use of these results in accordance with research (Stacie et. al., 2008) which states that service quality is significantly positive for users. The quality of service in student e-learning can increase the intensity of the users. Based on the respondent's questionnaire, the highest loading factor is the reliability indicator, so that the existing e-learning must maintain and continue to implement the quality of its services so that it can increase the intensity of its users. This is in accordance with previous research (Muhammad Islam Salim, 2014) which states 'that there is a significant positive relationship'.

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