

Google Classroom Learning Media Acceptance And Use Analysis Using Technology Acceptance Model (TAM)

Indyah Hartami Santi

Universitas Islam Balitar

Jl. Imam Bonjol No. 14 Blitar, Jawa Timur, Indonesia

*Email: indyahartamisanti@gmail.com

ABSTRACT

Google Classroom learning media in distance learning classes becomes a medium worth considering. The purpose of this study was to find out the level of admission of students in using google classroom learning media. The approach method is carried out by quantitative method by spreading the questionnaire to students and the results of this data collection are calculated using SPSS. The analysis model used is the Technology Acceptance Model. From calculations and analysis obtained the result that the relationship between ease of use of intentions and interface design relationship to usability is rejected. While the result of the relationship of usability to intention, the relationship between intention with the use of technology, the relationship between interface design with ease, the relationship of experience to ease and the relationship of ease to usefulness received.

Keywords: Learning Media, Distance Class, Google Classroom, Technology Acceptance Model



INTRODUCTION

The role and contribution of Information and Communication Technology (ICT) is very important in efforts to solve the problems faced in the world of education, especially after the establishment of the Covid-19 virus as a global pandemic by the World Health Organization (WHO). The government gave instructions for schools to be temporarily closed to suppress the spread of the virus. In this situation ICT has a very important role in efforts to maintain the continuity of learning. This is in line with the principle that suspending classes without stopping learning (Zhang et al., 2020)

The Covid-19 outbreak is one of the driving factors for extreme changes in the use of ICT in the learning process at various levels of education in Indonesia. Starting from Early Childhood Education (PAUD), Elementary School education (SD), First Level Advanced School education (SLTP), Upper Tingkat Advanced School (SLTA) and education in Higher Education. The most visible change from the teaching system that previously used face-to-face (conventional) was to replace distance learning or often called the online system. The only alternative that can be done in the distance learning process is an online system (Chaeruman U A, 2020). Utilization of ICT in the distance learning process is not only done in Indonesia, but also carried out by various countries in the world. The difference is in the acceptance of technology by students and the Indonesian people who are not used to doing learning activities through ICT

Although e-learning as a technology is the best choice for learning, the use of e-learning cannot be ensured that it is always well received as students can receive conventional learning. Even students actually do not fully accept, dislike or even actually reject e-learning (Brangier & Adele, 2013; Recker, 2016). Although several studies have stated that the use of e-learning can significantly improve student learning outcomes (Hoerunnisa et al., 2019; Prasistayanti et al., 2019; Rohimah et al., 2020), the results of studies during the Covid outbreak -19 has not been able to measure the level of acceptance and use of e-learning.

The reality is that in this distance learning process there are obstacles for parents in educating early childhood children during the COVID-19 pandemic (Mufaziah & Fauziah, 2020). There are various obstacles faced in distance learning. Many things are faced not only in terms of equipment, very diverse learning media, but also in the ability to use supporting facilities and infrastructure in this learning. For this reason, there is a need for training for educators to equip them in the process of transferring knowledge so that it can reach students well as expected together. Assistance research and training in using learning media such as google meet, google classroom, zoom meet, whatsapp Microsoft team and others. These studies include training on the use of Google classroom as a learning medium and evaluation of teachers at SMK Negeri 11 Medan (Sibero et al., 2020). Also online training on learning technology (Setiawan & Rahman, 2020). Assistance with the online learning system based on the Google Meet application for IT Daarul Istiqlal Middle School and IT Rahmat Marindal I Middle School teachers, Patumbak District, Deli Serdang Regency (Nasution et al., 2020). Learning innovation training in dealing with the COVID-19 pandemic (Safarati et al., 2020). Google Classroom Online Learning as Support for Social Distance Restrictions in the Era of the Covid-19 Pandemic (Haryanto, n.d.). Google classroom training as an online lecture medium for a group of lecturers at the Mataram Tourism High School (Putra et al., 2020). Flip learning-flip classroom, an innovation in learning, in the covid-19 era (University & Medan, n.d.). Virtual Classroom-Based E-Learning in the Covid-19 Era (Indahningrum, 2020)

Technology Acceptance Model (TAM) is one theory that is considered very influential and is generally used to explain individual acceptance of the use of information technology

systems (Jogiyanto, 2008 in Saras, 2016:31). In this study, to perform the analysis, the TAM model was used. The TAM model was developed to explain the behavior of users of information systems or technology (Jogiyanto, 2007:111). TAM explains individual acceptance of the use of information technology systems with 5 main factors, namely Perceived usefulness (usability), Perceived ease of use (ease of use), Attitude toward using technology (attitude), Behavioral intention to use (intentions), and Actual technology use (the actual use of technology) (Jogiyanto, 2008 in Saras, 2016:32).

METHOD

The type of research used in this research is quantitative research with a descriptive approach. The research was conducted at the Islamic University of Balitar Blitar. The population in this study were students of the Informatics Engineering Study Program, Faculty of Information Technology, Balitar Islamic University (UNISBA) who were active in the even semester of 2020/2021. Determination of the number of samples in this study using a sampling technique. Determination of the research sample using simple random sampling technique. Simple random sampling is a technique used for determining the sample, the method of taking samples with simple random sampling can be done by lottery, ordinal, or random methods. This study uses the slovin formula to determine the recommended minimum number of samples for a population. Based on the existing population of 1098 students, it can be determined the number of sample data is 92 students.

The variables used in this study are the dependent variables, including the variables of usability, ease of use, intention and actual use of technology. Meanwhile, the independent variables include complexity, experience and interface design

Data was collected by conducting interviews and distributing questionnaires. The questionnaire was conducted in a closed way, namely by using a Likert scale with a value of 1 to 4. The questionnaire instrument used for research was an instrument that had been declared valid through a validity test with the Pearson Bivariate Correlation technique. Besides being valid, the instrument must also be reliable. Internal reliability testing of the instrument was carried out using the Cronbach Alpha formula.

RESULTS AND DISCUSSION

Result

The conceptual model that is built on the basis of the variables used looks like in Figure below :

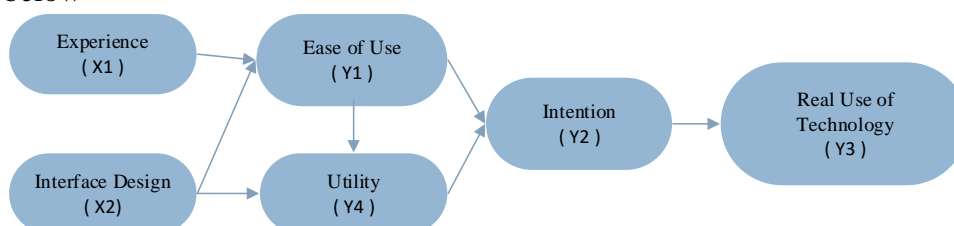


Figure 1. Conceptual model of research

Based on Figure 1. it can be formed into 4 research sub-structures including:

1.Substructure 1:

Substructure 1 connects the ease of use and usability variables with the intention variable, with a relationship display as shown in Figure 2 below:

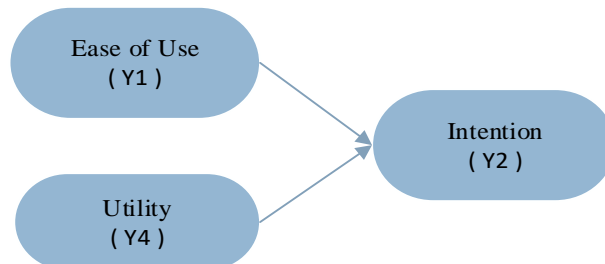


Figure 2. Conceptual chart of substructure 1

2.Substructure 2:

Substructure 2 relates the intention variable to the actual use of technology, as shown in Figure 3. below:

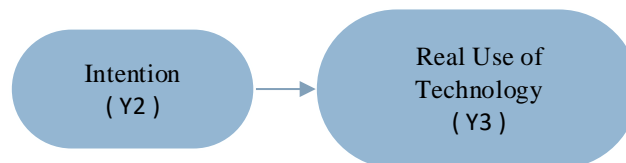


Figure 3. Conceptual chart of substructure 2

3.Substructure 3:

Substructure 3 connects the experience variable and interface design with the ease of use variable, as shown in Figure 4 below:

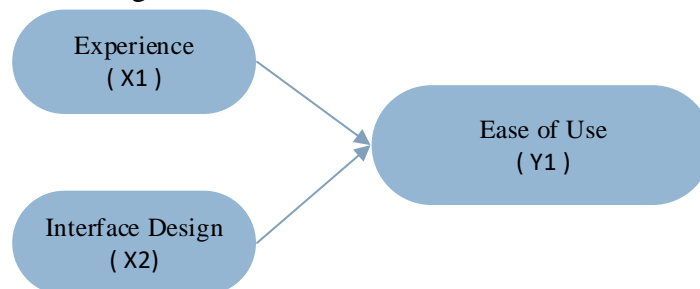


Figure 4. Conceptual chart of substructure 3

5 Substructure 4:

Substructure 4 connects interface design and ease of use with usability variables, as shown in Figure 5 below:

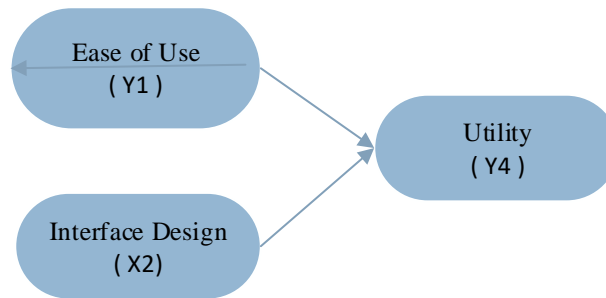


Figure 5. Substructure conceptual chart 4

Based on the conceptual model and the formed substructure, 7 research hypotheses are formulated as shown in table 1 below:

Table 1 Research Hypothesis

Connection	
H1	use affects intention
H2	Ease of use affects intention
H3	Intensi berpengaruh terhadap penggunaan teknologi sesungguhnya
H4	Intentions affect the actual use of technology
H5	Interface design affects ease of use
H6	Experience affects ease of use
H7	Ease of use affects usability

The hypothetical model in this study can be described as in Figure 6 below:

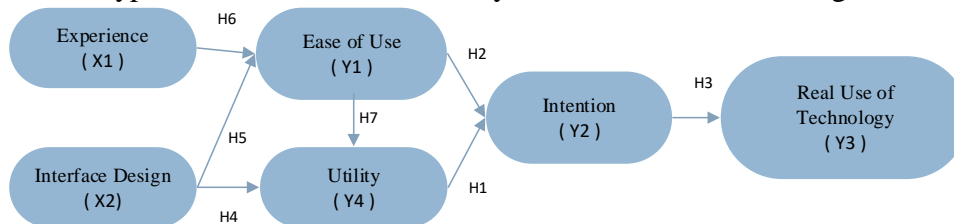


Figure 6. Hypothesis Model

The questionnaire used in this study was a closed questionnaire. Questionnaires in the form of google forms were distributed to the population studied, namely students of the Informatics Engineering study program at the Islamic University of Balitar who were active in the even semester of 2020/2021. Data collection was carried out from April 2021 to June 2021. The number of questionnaires distributed was 144 questionnaires with detailed data as shown in table 2 below:

Table 2 Questionnaire distribution data

No	Semester	Subject	Amount
1	2	Programming Algorithm	68
2	4	Software engineering	20
3	6	Algorithm Analysis Design	20
4	8	Software Project Management	36
TOTAL			154

The results of collecting questionnaires in this study are presented in Table 3 below.

Table 3. Results of Data Recapitulation

Description	Amount
Questionnaire distributed	144
Responded Questionnaire	111
Questionnaire that has not been answered	33
Students who have used Google classroom	54
Students who have never used Google classroom	5

Based on Table 3, there are 33 questionnaires that have not been answered by respondents and 5 respondents have never used the Google Classroom application. Taking into account these results, further prerequisite tests and hypothesis tests are carried out using a significance level of 5% (0.05)

Discussion

Descriptive Statistical Analysis

The following presents the results of a descriptive analysis of the questionnaires, each of which uses 4 alternative answers, with the percentage results as shown in table 4 below:

Table 4 Percentage Results

No	Variable	Variable	Percentage				
			5	4	3	2	1
1	Utility	Y4	14	58	18	8	1
2	Ease of Use	Y1	23	66	9	25	0
3	Intention	Y2	7	49	30	13	1
4	Real Use of Technology	Y3	11	48	26	14	1
5	Experience	X1	34	43	10	11	2
6	Interface Design	X2	20	67	11	2	0

Validity test

Question items are declared valid if the calculation results (rcount) the correlation value is greater than rtable on the number of subjects used. The results of the validity test for each variable stated that all r_count values were more than r_table (0.156) which meant that all questions were valid.

Reliability test

The results obtained from calculations using the SPSS application, the coefficient value of the Alpha Cronbach variable X2 from all 4 question items shows a value of 0.882. Cronbach's Alpha coefficient value is more than 0.60 which means that the 4 statement items used in this study are reliable

Classic assumption test

The study used 3 classical assumption tests, namely normality test, heteroscedasticity test, and multicollinearity test. The data used for the classical assumption test is the total score of each statement variable.

a. Normality Test

The results of the normality test of each substructure obtained the results of the calculation of all substructures showed that the significance value was greater than 0.05, so the residual data of all substructures was declared to be normally distributed.

b. Heteroscedasticity Test

The following are the results of the SPSS calculation of the heteroscedasticity test for each substructure carried out by the researcher using the Glejser method. The value of the calculation of the heteroscedasticity test obtained results as shown in table 5 below:

Table 5. Calculation Results of Heteroscedasticity Test

Sub structure	Dependent variable	Tolerance	Value Significance
1	Intention	Utility	0.245
		Ease of Use	0.132
2	Real Use of Technology	Intention	0.226
3	Ease of Use	Experience	0.465
		Interface Design	0.866
4	Utility	Ease of Use	0.167
		Interface Design	0.275

The significant value of each variable is above 0.05, then the data is declared not to have heteroscedasticity so that the data is suitable for use for analysis.

c. Multicollinearity Test

The following are the results of the multicollinearity test for each substructure.

Table 6. Multicollinearity Test Calculation Results

Sub structure	Dependent variable	Tolerance	Tolerance	VIF
1	Intention	Utility	0.479	2.089
		Ease of Use	0.479	2.089
2	Real Use of Technology	Intention	1.000	1.000
3	Ease of Use	Experience	0.849	1.177
		Interface Design	0.849	1.177
4	Utility	Ease of Use	0.717	1.395
		Interface Design	0.717	1.395

F test

The calculation results obtained f test results as in table 7 below:

Table 7. F . test

Sub structure	Dependent variable	Independent variable	R Square	F count	F table	condition
1	Intention	Utility	0,485	50,882	3,08	Fh ≥ Ft
		Ease of Use				
2	Real Use of Technology	Intention	0,263	38,984	3,93	Fh ≥ Ft
3	Ease of Use	Experience	0,417	38,695	3,08	

		Interface Design				$F_h \geq F_t$
4	Utility	Ease of Use	0,527	60,223	3,08	$F_h \geq F_t$
		Interface Design				

Based on Table 7, it can be seen that the condition of all substructures shows the value of Fcount Ftable so that it can be said simultaneously or together there is a significant influence between the independent variables on the dependent variable.

T test

In this study, the coefficient value is denoted by the symbol "p". The calculation of the p value in SPSS is seen from the results of the regression analysis of each value substructure, namely the standardized coefficients beta in the Coefficients table. Here are the "p" values for each path substructure.

Table 8. Calculation Results of the SPSS . Coefficient Value

Sub structure	Dependent variable	Independent variable	Coefficient Value (P)
1	Intention	Utility	0,603
		Ease of Use	0,122
2	Real Use of Technology	Intention	0,513
3	Ease of Use	Experience	0,397
		Interface Design	0,378
4	Utility	Ease of Use	0,674
		Interface Design	0,090

Based on the results of the calculation of the coefficient value of each variable relationship, it is in the form of Figure 7 below:

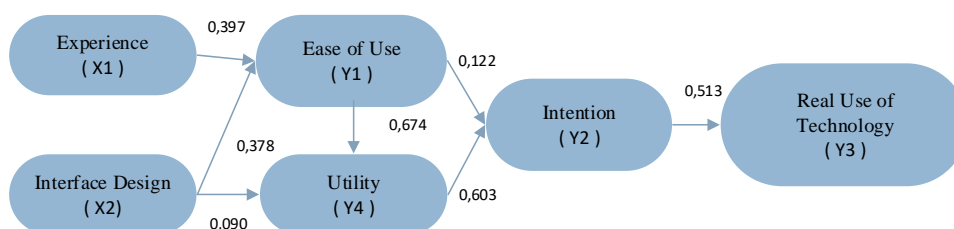


Figure 7. The coefficient value of each variable relationship

Table and Figure 7, show that most of the pairs of variables have a positive effect, in addition to the pairs of variables that have a negative effect on Interface Design and Technology Use. The table of significance of the coefficient values can be seen in table 9 below:

Table 9. Table of Significance of Coefficient Values

Sub structure	Dependent variable	Independent variable	Sig t	condition	conclusion
1	Intention	Utility	0,000	$\text{Sig } t < 0,05$	significant
		Ease of Use	0,223	$\text{Sig } t > 0,05$	Not significant

2	Real Use of Technology	Intention	0,000	Sig t < 0,05	significant
3	Ease of Use	Experience	0,000	Sig t < 0,05	significant
		Interface Design	0,000	Sig t < 0,05	significant
4	Utility	Ease of Use	0,000	Sig t < 0,05	significant
		Interface Design	0,251	Sig t > 0,05	Not significant

CONCLUSION

The Technology Acceptance Model method is used in this study to analyze the acceptance and use of Google Classroom learning media by students. In the calculation of the analysis is done using SPSS. From this calculation, the significance of the coefficient values of the 7 proposed hypotheses is obtained, and the results show that there are 2 rejected hypotheses, including the relationship between ease of use and intention and the relationship between interface design and usability. While the relationship of variables other than the two is accepted.

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