

## The Effect of Perceived Usefulness and Perceived Ease to Use on Intention to Use Online Applications in The Learning Process in Pandemic Era

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**Abstract:** Pandemic conditions have brought changes to various human activities in this world. One of them is learning activities, which usually at school now have to be done at home. because these demands make educational institutions must be able to accommodate the online learning process by preparing an application platform. with the use of this new technology is it acceptable to use it. then the researcher uses the variable perceived of usefulness and perceived ease of use. This research was conducted at 6 private universities in Indonesia randomly and got 233 respondents. The data collective by questionnaire and analysis technique used multiple regression analysis. The results showed that Perceived Usefulness (X1) and Perceived Ease to Use (X2) have a significant effect on Intention to Use (Y) the use of e-learning applications by 43.9%

**Keywords:** Adoption Technology, Online Learning, Pandemic

### 1. Introduction

The epidemic caused by the COVID 19 virus has made almost all countries experience a crisis. Since this condition was declared a world epidemic or condition (pandemic) by WHO in March 2020 (WHO, 2020), of course it has brought big changes to the world. This condition does not only affect the health sector, but almost all business sectors are affected. Community activities around the world have also changed, an employee has become work at home, school children have become school from home, and all public facilities that invite crowds are closed. All activities are carried out at home in order to cut the spread of this virus. So that we saw at that time several countries imposed lockdowns on their countries.

This condition is of course devastating for the world, so that a crisis can be felt in several countries. Every government in every country tries to make strategies and policies, so that their country can still survive in these conditions. One of them is Indonesia, which has taken the PSBB policy instead of completely closing the country (lockdown). One of the reasons for this policy is to keep the economy moving. Until now, the pandemic conditions have not yet been announced from the WHO.

Apart from the economic sector, the sector most affected by the COVID 19 situation is also the education sector. The entire learning process that is usually carried out face-to-face must be done online. Of course this is not easy for educational institutions. Especially for educational institutions that are not ready for online system infrastructure. In addition to the difficulties experienced by educational institutions, of course students also feel the same way, especially for students who do not have electronic devices for learning and so on. Indonesia is a very large country with thousands of islands which of course not all regions have adequate infrastructure for the internet. This is where the big role of the government is to make policies on how strategies are suitable for the learning of students in each region. In (Bordoloi, Das, & Das, 2021) it is explained that the conditions of learning carried out in India have more or less the same demographic as Indonesia. Where there is implementing blended learning, so how can each student learn, that is, they can take advantage of any media in learning that does not require schools to have a system for learning or we are familiar with e-learning.

In (Kurniasari, Pribowo, & Putra, 2020; Kos et al., 2019) it is explained that the achievement of learning objectives is influenced by several things including: the learning process, the media, and the teaching materials used. At the time of this pandemic, every educational institution is trying to achieve this, including several schools that have started investing to build an e-learning system, some are providing trainings for teaching staff to teach the use of several online media in the learning process. In various levels of education, every educational institution always tries to give the best for its students. The kind of education that is considered the most adaptable in these conditions is the higher education level (University). This can happen because students are independent to be given assignments, as well as in several universities that have implemented the e-learning method so that with this condition they are used to it.

However, this condition does not occur in all regions of Indonesia such as the research that has been carried out (Widiyono, 2020), which explains the learning conditions during the pandemic in Jepara, East Java, where the results state that students are able to follow recovery through the media used but the material is difficult. perceived usefulness. Likewise, we can see conditions in several regions in Indonesia that use several new virtual meeting applications for lectures such as zoom, gmeet, or Microsoft Teams, but most of them do not really understand their function or nature (perceived ease of use). In looking at these problems, the purpose of this study is to see the effect of the adoption of the use of this online learning application through the variable perceived usefulness and perceived ease of use and its effect on learning success during the COVID 19 pandemic.

**2. Literature review**

The theory of technology adoption or better known as the technology acceptance theory of TAM model, introduced by Davis on 1989. Then this theory develops and continues to develop into technology acceptance theory. In this model there are two main beliefs, namely (perceived usefulness and perceived ease of use) which of these two variables have an impact on behavioral intention. Perceived Usefulness is a benchmark where someone believes in the use of technology that will help him improve performance, while the variable perceived ease of use is a measure where someone believes that the technology he uses is easy and does not require a large amount of effort in its use. In connection with the meaning of each of these variables, this theory can still be used today. In (Pipitwanichakarn & Wongtada, 2019) it is explained that the greater the perceived benefits and ease of use of a technology, the technology will be adopted or used.

Hypothesis

Ho: There is no influence between Perceived Usefulness and Perceived Ease to Use on Intention to Use online application on pandemic era.

Ha: There is an influence between Perceived Usefulness and Perceived Ease to Use on Intention to Use online application on pandemic era.

**3. Methods**

The method in this research is quantitative research and technique analysis data used liner regression analysis. This study examined two variables that will be studied, including variable X1 (independent variable) is Perceived Usefulness, X2 is perceived ease to use and variable Y (dependent variable) is Intention to use . The population of this study were students from six private universities in Indonesia . Total sample for this research are 233 respondent.

Data collection The data used in this study were obtained by distributing questionnaires online using google form.

Reliability and Validity Test

Validity and reliability testing in this study found that the reliability value measured by Cronbach alpha was above 0.70

**4. Analysis**

Descriptive Analysis

The following is the respondent's data according to gender:

Table 1 – Gender of Respondent

Gender	Total
Man	93
Woman	140
	233

This research was conducted by taking samples from six private universities consisting of several regions in Indonesia, where students usually come from areas outside the area where the campus is located. During this time of the pandemic, it is mandatory for every student who is currently studying to learn from home. This of course has an impact on students who have migrated from their home areas which require them to return to their hometowns to study from home. Of course this has an impact on the learning process where the area of origin is not necessarily the area that has an adequate internet infrastructure. The following is the distribution of respondents in terms of their area of residence:

Table 2 – Province of Residence Respondent

PROVINCE OF RESINDENCE	TOTAL
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BALI	122
BENGKULU	2
Jakarta	6
JAMBI	2
WEST JAVA	65
CENTRAL JAVA	5
EAST JAVA	2
SOUTH KALIMANTAN	1
EAST KALIMANTAN	2
NTB	13
NTT	5
RIAU	1
WEST SUMATERA	1
SOUTH SUMATERA	1
NORTH SUMATERA	5
TOTAL	233

During the pandemic, not all universities are ready to have an e-learning system that helps the online learning process. So it is not surprising that at the beginning of the pandemic, several universities were confused about choosing a platform that could be used in the online learning process. In distributing the questionnaire, there are several platforms used by the respondent's college, namely:

Table 3 – Platform Uses During the Pandemic

The platform your lecturer uses during the pandemic	
Google Classroom	148
Group Online (WA, Line, etc)	23
E-learning on university platform	62
Total	233

Based on the table above, it can be seen that most of the universities studied used google classroom, this is because not all universities are ready with the e-learning system they have. So the fastest decision is to use open source technology that is easy to implement, in this case the google classroom. Meanwhile, the number of tertiary institutions that already have an e-learning system is not that large. In every implementation process, the use of applications requires adaptation to the technology being applied. This is stated in the theory of Davis (1989) on (Pipitwanichakarn & Wongtada, 2019).

#### Multiple Regression Analysis

Table 4

Variable Model Test Perceived Usefulness(X1), Perceived Ease to Use (X2), dan Intention to Use (Y)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.666 <sup>a</sup>	.443	.439	.60834

a. Predictors: (Constant), X2, X1

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	67.831	2	33.916	91.645	.000 <sup>b</sup>
	Residual	85.118	230	.370		
	Total	152.949	232			

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.188	.176		6.753	.000
	X1	.319	.066	.320	4.793	.000
	X2	.406	.067	.406	6.069	.000

The results of the F test to determine the effect of the independent variable simultaneously on the dependent variable. To prove whether Perceived Usefulness (X1) and Perceived Ease to Use (X2) have a significant effect on Intention to Use (Y), the hypothesis is tested as follows:

Ho: There is no influence between (X1) and (X2) on (Y)

Ha: There is an influence between (X1) and (X2) on(Y)

In table 4 above, it can be seen that the R square value is 0.439, which is above from 0.000, then H0 is rejected and Ha is accepted, meaning that Perceived Usefulness (X1) and Perceived Ease to Use (X2) have a significant effect on Intention to Use (Y) use. e-learning applications amounted to 43.9%. Seeing the results of this study are in accordance with previous research (Pipitwanichakarn & Wongtada, 2019) and (Lee, Fiore, & Kim, 2006) which state that the variables perceived usefulness and perceived ease to use have an influence on intention to use in application use. From the results of this study we can know that in every adoption of a new system, to generate interest in using the application there must be several supporting factors. In this case, it is the usability factor and the ease of use factor. Even though at the beginning of the pandemic, all educational institutions experienced difficulties in choosing a system that could accommodate the teaching and learning process. However, when you know the driving factors in the interest in using the system, it can make technology acceptable to use. In this study we can see that the magnitude of the influence is 43.9%, so the rest can be other factors. Because the respondents in this study were students who are currently referred to as the millennial generation, so we can see that technology acceptance is not considered the main problem. In the questionnaire, a number of supporting questions were given that asked problems in the online learning process during this pandemic and most of the answers to problems in online learning were internet problems related to quotas and also bad signals. The signal problem is a problem in IT infrastructure so it can be explained that every time there is a new technology, it is hoped that updates in the infrastructure are also expected. In addition to signal problems related to infrastructure, there are several factors in building satisfaction during online learning (Basuony, EmadEldeen, Farghaly, El-Bassiouny, & Mohamed, 2020), which consists of self-motivation, online exams, online class time.

**5. conclusion**

Based on the research that has been done, it can be concluded that variable of Perceived Usefulness (X1) and variable of Perceived Ease to Use (X2) have a significant effect on variable Intention to Use (Y) the use of e-learning applications by 43.9%. In the process of accepting technology, when a new technology is considered to have great benefits and is easy to use, the new technology can be easily accepted by its users. In this case it is an online learning platform or application.

**6. Suggestion**

Based on the research above, it can be seen that the acceptance of technology is 43.9%, where the rest is another factor, for the next researcher it can be suggested to be able to examine other factors as technology acceptance

factors such as facilities or social influences. Then for education providers in Indonesia, the main obstacle faced by Indonesia is the uneven infrastructure in each region. So with this pandemic condition, the synergy of various parties is expected for the implementation of the online learning process better. For example, the government's cooperation with several telecommunications companies to strengthen infrastructure for better connections.

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