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Behavior Determining the Use of Internet Communication Technology: Facility Conditions and Performance Expectations

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ABSTRACT

The Covid 19 pandemic has made internet-based communication technology the main thing to communicate effectively in the world of education. The purpose of this study was to determine the effect of facility conditions and performance expectations on the behavior of using communication technology (actual use and use intention. Sampling using the purposive sampling method. Distribution of questionnaires was conducted to 100 students who are still effective using internet-based communication technology in lectures. The data analysis tool uses Structural Equation Modeling (SEM) with AMOS version 22. The results of this study state that Performance expectations are a construct that has a significant effect on intention use and actual use, while facility conditions only affect intention use and have no significant effect on actual use. The implication of this research is that the teachers and students must communicate effectively in the choice of technology in order to increase student expectations to improve their academic abilities.

Keywords: Facility Condition, Performance Expectation, Technology Intention Use, Technology Actual Use

INTRODUCTION

The impact of the Covid-19 pandemic that hit the world, not only has an impact on human health but also has an impact on other aspects of life. One aspect that is affected is the social aspect of education. Schools and campuses were closed simultaneously to prevent the spread of the virus. This has led the government to adopt an E-learning policy as an alternative in the learning process in schools and colleges. The E-learning process applied in Indonesia uses internet-based information and communication technology to replace the direct learning process.

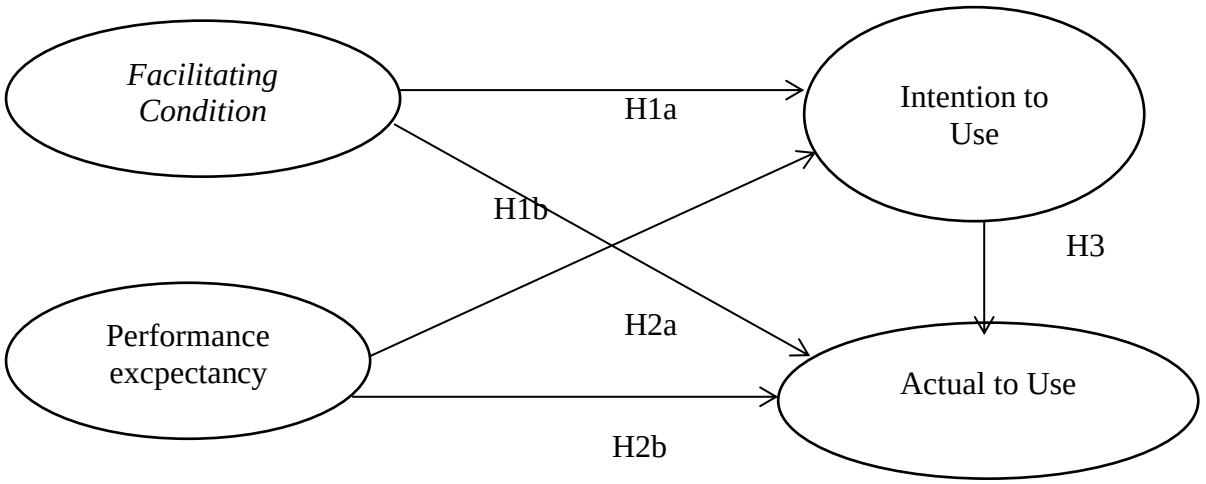
The concept of e-learning is an ICT-based learning technology (Information and Communication Technology) that has been accepted in education. Several studies state that the quality of information technology implementation such as e-learning will always be related to voluntary user acceptance (Nasir, 2013; Yulius, 2016). The quality of good implementation must of course be supported by the acceptance and use of a technology One of the widely used technology acceptance models is the unified theory of acceptance and use of technology (UTAUT). UTAUT is a model that has seven main constructs, namely performance expectancy, effort expectancy, social influence, facilitating conditions on behavior intention and use of technology. In addition, UTAUT also adds three variables to its model, namely hedonic motivation, price value) and habit (Venkatesh et al., 2012).

Mahzan and Limer (2014) state that facilitating conditions and performance expectations are the two main constructs of UTAUT that can affect the successful adoption of a technology. Facilitating conditions relate to the extent to which the infrastructure provided by the organization and the external environment can affect a person's motivation to adopt a technology (Venkatesh et al., 2003). The use of technology that is capable of supporting activities and performance should be supported by good facilities. Facility conditions can affect a person in using a technology. Gunasinghe et al. (2019) stated that facilitating conditions can actually affect someone using technology. Fianu et al. (2020) in his research stated that facilitating conditions affect a person using an actual communication information technology. However, in Sedana and Wijaya (2009) research, it is stated that facilitating conditions do not correlate with actual technology use

Performance expectancy and behavioral intention are the best predictors to determine whether someone actually uses technology (Carter et al., 2011; Williams et al., 2014; Moghavvemi and Saleh, 2014; Rahi et al. 2019). Performance expectancy is defined as the extent to which individuals believe that a system used can help them to achieve benefits in work (Venkatesh et al., 2003). In the application of E-Learning, performance expectancy is a construct that can increase individuals to use technology (Gunasinghe et al., 2019).

From this discussion, this study aims to determine the factors that influence the intention to use and actual use of E-learning technology in universities. This study is limited to examining facilitating conditions and performance expectations associated with intention to use technology and actual use of information and communication technology.

RESEARCH METHOD



The e-Learning process has indeed become known by the wider community since the pandemic hit. However, the use of e-learning without being based on strong desire will not be carried out well, it will cause poor performance in the introduction process. Performance excellence and Facilitating Condition are two strong constructs in influencing one's intention to use e-learning technology. Strong intentions will be able to influence someone to use information and communication technology in real terms.

Facilitating Condition

Facilitating Condition refers to consumers' perceptions of support for the availability of resources to do something. UTAUT identifies Facilitating Condition as a construct that reflects a person's perception of control over his behavior (Gallivan et al., 2005). A person who is supported to use a computer technology facility will increase his willingness to use a computer so that he becomes accustomed to using the device (Tan, 2013). Venkatest (2012) adds that there is a relationship between facilitating conditions and a person's desire to adopt a technology. Lai (2015) also confirmed that there is a close relationship between technology facilities and the actual use of this technology. Facility conditions are important for the acceptance of information technology in the e-Learning process. This causes a high facilitation condition that will lead to the intention and use of e-Learning technology.

H1a. Facilitating conditions have a significant effect on the intention to use E-learning technology.
H1b. Facilitating conditions have a significant effect on the actual use of E-learning technology.

Performance Expectacy

Performance expectancy is a development of perceived usefulness (from TAM), Job fit (from MPCU), Extinsic Motivates (from MM) and outcome expectations (SCT). Performance expectancy is a key factor for users to accept a technology (Tarhini et al., 2016; Alalwan et al., 2017; Oliviera et al., 2016). Consumers will be more motivated to use and accept a new technology if the technology can be useful for their daily activities (Venkatesh et al. 2003; Alawan et al. 2016; Gupta et al., 2018). Someone intends to use a technology if technology can provide great benefits to improve its performance (Arif et al., 2018).

H2a. Performance excellence has a significant effect on the intention to use E-learning technology.
H2b. Performance expectancy has a significant effect on the actual use of E-learning technology.

Intention to Use and Actual Use

Sivathanu (2017) in his research states that the desire to use a system is a strong construct to influence someone to use a technology. Intention is behavior before usage behavior. Actual usage behavior is a clear response in relation to a given technology. Previous studies on the acceptance of information technology discussed the relationship between behavioral intentions and actual behavior to use information technology (Zhaou, 2010; Venkatesh et al., 2012; Tarhini et al., 2016).

H3: *Intention use has a significant effect on the actual use of E-learning technology.*

The data used in this study are primary data. The data collection technique used a questionnaire. Methods of data collection using purposive sampling method. The study was conducted to determine the acceptance and use of information and communication technology in the effectiveness of online learning activities in higher education. The study took a sample of 100 respondents, namely students who are still active in e-learning activities at universities. The data analysis

technique used Structural Equation Modeling (SEM) analysis with AMOS version 22.

RESULTS AND DISCUSSION

All instruments in this study have a product moment score of more than 0.3 with a significance level of less than 5 percent so that all items in the instrument are said to be valid. Reliability test is measuring the reliability of an instrument, in this study Cronbach's Alpha coefficient states that the value of an instrument is reliable if the Cronbach Alpha value is ≥ 0.6. The results of the reliability test based on the results of the study are that the Cronbach Alpha of the entire instrument is greater than 0.6. This shows that these measurements can provide consistent results when re-measured on the same subject.

Table 1. Validity and Reliability Test

	Fasilitating Condition	Product Moment	Alpha Cronbach
1	I have the facilities (laptop / notebook / smartphone) needed to carry out the e-Learning process	0.687	
2	I have the necessary knowledge to use e-learning Technology	0.682	0.811
3	I can easily access the internet for e-Learning purposes	0.828	
	Performance expectacy		
1	Information Technology applications used by lecturers to teach make it easier to get relevant information in academic activities	0,799	
2	I can study more efficiently through the Information Technology Application suggested by the lecturer	0,789	
3	The use of information technology applications can improve academic abilities	0,799	
4	Information technology applications can facilitate communication with lecturers.	0.686	0.933
5	Experience the great benefits of using online learning through applications	0.911	
6	Easily accessible electronic information sources motivated me to use Information Technology suggested by the lecturer	0.852	
7	Using communication technology for e-learning allows me to study well	0.871	
	Intention Use		
1	I want to use e-learning technology in learning activities in the future	0.797	0.903
2	I will use -learning technology to improve my academic abilities.	0.867	

3	I plan to use e-learning technology next semester in accordance with the instructor's instructions	0.756	
	Actual Use		
1	using e-Learning technology for academic purposes	0.80	0.897
2	Often use e-learning technology to attend lectures	0.758	
3	recommends the use of e-learning technology	0.806	

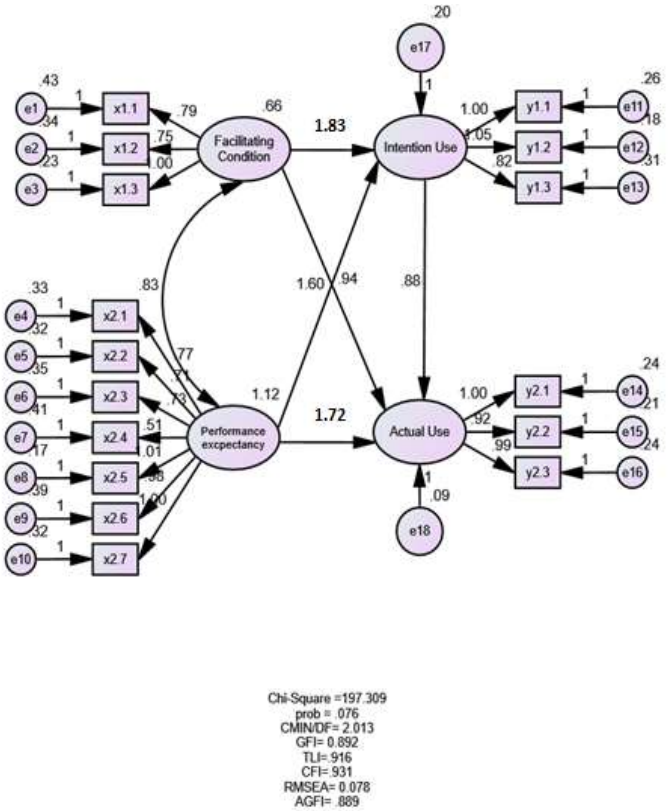
Goodness of Fit

From the results of the evaluation of the structural equation model, it turns out that from all the Goodness of Fit criteria used, all of them show good evaluation results, meaning that the model is in accordance with the data. This means that the conceptual model developed and based on theory has been fully supported by facts.

Table 2. Goodness of fit

Model	Default Model	Cut off Value	note
Chis-Square (CMIN)	197,309		Expected Small
Probability Level	0.076	≥0.05	good
CMIN/DF	2.013	≤2.00	good
GFI	0.892	≥0.90	Marginal
TLI	0.916	≥0.90	good
CFI	0.931	≥0.90	good
AGFI	0.889	≥0.90	Marginal
RMSEA	0.078	≤0.08	good

Based on Table 5, the default value of the measuring instrument modification model (Probability Level (ρ), CMIN / DF, TLI, CFI, GFI and RMSEA) all show quite high numbers, which indicate that the model is fit with existing data. Thus, it can be stated that this test results in good confirmation of the factor dimensions as well as the causal relationships between factors.



Picture 1. Structure Equation Model of Acceptance and Use of E-Learning Communication Technology

Causality Test

The causality test aims to determine the causal relationship between exogenous and endogenous variables in a study. In addition, it is also to test the formulation of the research hypothesis. The results of the regression weight test can be seen in Table 3

Tabel 3. Parameter Regression Weight Estimation

			Estimate	S.E.	C.R.	P	Result
IU	<---	FC	1.834	1.038	1.193	.034	Support
IU	<---	PE	1.600	.787	2.034	.042	Support
AU	<---	FC	.938	1.079	.869	.385	Not Support
AU	<---	PE	1.721	1.018	1.709	.039	Support
AU	<---	IU	.882	.312	2.829	.005	Support

Path analysis shows that facilitating condition and performance expectancy have a significant effect on the intention to use e-Learning communication technology, this means that it supports the statement of the H1a and H2a hypotheses.

The facilitating condition does not directly affect the actual use of the technology, which means that it does not support the H1b hypothesis. On the other hand,

Performance expectancy has a significant direct effect on the use of communication technology which means it supports the H2b hypothesis statement. The intention to use technology in the e-learning process is a construct that can affect the actual use of technology for e-learning. This means that it supports the hypothesis H3.

CONCLUSIONS

Effect of Facilitating Condition on Intention Use and Actual Use

Facilitating Condition has no significant effect on Actual Use. The results of this study contradict research conducted by Lai (2015) which states that someone who often uses technology will be able to use technology directly. However, Facilitating Condition has a direct effect on Intention use. This is in accordance with previous research which states that support for facility conditions will be able to increase a person's desire to use information and communication technology (Venkatest, 2012). In this study, someone who has media or facilities (laptop / notebook / smartphone) has a high desire to take part in the e-learning process. Knowledge support and easy internet access increase a person's desire to use information technology and technology to streamline the e-learning process.

The effect of Performance expectancy on Intention Use and Actual Use

Performance expectancy in this study has a significant effect on Intetion Use and Actual Use. This means that someone's high expectations of information technology will increase the desire to use this technology until finally using the technology to improve its performance (Tarhini et al., 2016; Alalwan et al., 2017; Oliviera et al., 2016). Information technology that can facilitate students in academic activities can increase their desire to use technology. The hope of learning more efficiently and increasing academic ability can directly influence the use of a technology that supports the e-learning process. Ease of communication with lecturers, expecting big profits, and the hope of being able to take part in learning through e-learning at this time also improves someone in using information and technology technologies.

Effect of Intention Use on Actual Use

Intention use is a strong construct in influencing someone to curse a technology (Zhaou, 2010; Venkatesh et al., 2012; Tarhini et al., 2016). Someone who has a strong desire to use communication technology in the e-learning process will directly influence their behavior in using this technology. The desire to improve academic abilities by using these technologies and the use of technology in accordance with the instructor's instructions will directly influence a person using information technology.

Research implications and research limitations

The communication technology and technology used to support the learning process during the Covid 19 pandemic are the most likely alternatives to be used. The support of existing resources can improve the performance of the teaching and learning process. In this study, facilitating condition and performance expectancy are two constructs that can increase a person's desire to use technology as an e-learning medium. However, during a pandemic, it seems that strong performance expectations can directly influence a person's behavior to use technology in real terms. Of course, if the e-learning process can be carried out

well, it takes high expectations for a user that technology will be able to provide good performance academically. Choosing the right communication and information technology for students can be the main thing in increasing the use of this technology. Teachers and students must communicate effectively about the use of appropriate technology so that the hope for students to be able to improve their academic abilities can be achieved properly.

This research is limited to students who are doing the e-Learning learning process in Bali by using 2 constructs as variables that influence a person's behavior in accepting and using information and communication technology. It is hoped that future research will pay more attention to other constructs that can support the acceptance and use of technology in the future.

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