



Technology Acceptance Model: the use of E-Study Applications in E-Learning

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ABSTRAK

Penggunaan aplikasi estudy dalam pembelajaran e-learning oleh mahasiswa Fakultas Teknik harus dilakukan, karena tuntutan keadaan yang mengharuskan belajar dari rumah sebagai akibat pandemic covid-19. Tujuan penelitian ini adalah untuk menganalisis bagaimana penerimaan teknologi aplikasi e-study oleh mahasiswa fakultas Teknik selama pembelajaran online di laksanakan. Jenis penelitian ini adalah kuantitatif dengan melakukan survey kepada mahasiswa. Model yang digunakan untuk analisis penerimaan teknologi adalah yang diusulkan oleh Davis. Instrumen dalam penelitian ini berupa angket yang dibagikan kepada siswa melalui link google form yang dibagikan secara online. Sampel dalam penelitian ini berjumlah 128 orang. Teknik analisis data yang digunakan yaitu korelasi. Hasil penelitian menunjukkan bahwa mahasiswa fakultas teknik menunjukkan sikap dan perilaku yang positif dalam menggunakan aplikasi estudy sebagai platform pendidikan dalam e-learning dimasa pandemic covid-19. Dengan demikian penggunaan aplikasi e-study selama pandemic covid-19 dengan memanfaatkan aplikasi estudy oleh mahasiswa fakultas teknik berpengaruh positif dalam belajar dari rumah dalam bentuk e-learning. Aplikasi e-study dimasa yang akan datang dapat dimanfaatkan sebagai media e-learning oleh mahasiswa pada perkuliahan

ABSTRACT

The use of the Estudy application in e-learning by students of the Faculty of Engineering must be carried out due to the demands of circumstances that require studying from home due to the Covid-19 pandemic. The purpose of this study is to analyze how the acceptance of e-study application technology by Engineering faculty students during online learning is carried out. This type of research is quantitative by surveying students. The model used for analyzing technology acceptance is that proposed by Davis. The instrument in this study was a questionnaire that was distributed to students via the Google form link which was distributed online. The sample in this study amounted to 128 people. The data analysis technique used is a correlation. The study results showed that engineering faculty students showed positive attitudes and behaviors in using the Estudy application as an educational platform in e-learning during the Covid-19 pandemic. Thus the use of the e-study application during the Covid-19 pandemic by utilizing the Estudy application by engineering faculty students had a positive effect on learning from home in the form of e-learning. Future e-study applications can be used as e-learning media by students in lectures.

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1. INTRODUCTION

Online learning during the COVID-19 pandemic at the university level must continue to be carried out through an educational platform developed by the Putra Indonesia University Technology team Padang in the form of an application called estudy. Online learning can be maximized by using an educational platform or Learning Management System (LMS) which provides complete features to support interaction between students and lecturers (Bervell et al., 2020; Morze et al., 2021; Sumardi et al., 2021). An increase in learning outcomes by utilizing LMS schoology in learning carried out in the form of e-learning (Irawan & Sutadji, 2017; Rini Sefriani et al., 2021; Rini Sefriani & Sepriana, 2020). The use of LMS in online learning is expected to help the continuity of learning with pandemic conditions (Shaikhli, 2022; Sumardi et al., 2021).

The implementation of online learning at the university level has been carried out by several universities including E-Learning Undiksha, in research on learning during the COVID-19 pandemic by students of the Physical Education and Health study program it was found that the use of e-learning by students was quite effective (Satyawan et al., 2021). Students are motivated to carry out online learning in a sustainable and barrier-free manner in online learning, thus enabling universities to further enhance their online learning process and platform (Binali

et al., 2021; Rais et al., 2019; Saha et al., 2021). The use of technology in online learning is not new but it is also not an easy thing for engineering students at Putra Indonesia University Yptk Padang, because prior to the COVID-19 pandemic, e-learning was conducted in one course for each subject. Generation using Moodle software. Online learning using the LMS platform has a positive impact on improving student learning outcomes (Bervell et al., 2020; R. Sefriani et al., 2021; Zabolotniaia et al., 2020). The use of mobile technology in learning increases students' learning motivation (Hanifah et al., 2020; Veri et al., 2019).

There is an LMS that can be accessed by many people via cell phones. Moodle is one of the most widely used learning management systems today and has traditionally been studied through the Technology Acceptance Model. The technology acceptance model in learning can be used by looking at several factors of perceived usefulness and ease of use of technology (Nugroho & Iqbal Arrosyad, 2020; Siti et al., 2021). Conducting research related to the acceptance model of online learning technology using zoom, with the results of his research revealing that the attitude and intention factors for using technology show positive things by technology users (Alfadda & Mahdi, 2021; Shahin & Arfaj, 2022). Student acceptance of technology in online learning shows a positive attitude and ease in using online learning applications (Faisal et al., 2021; Shaikhli, 2022).

Perceived ease of use of online classes showed a positive effect on perceived usefulness, perceived usefulness and satisfaction showed a positive impact on online education acceptance intentions (Anitha Kumari et al., 2020; Downer et al., 2021; Han & Sa, 2021). Lecturers and students must have the readiness to support capable learning technology devices (H. Pratama et al., 2020; Wang et al., 2020). E-learning with schoology is declared feasible to be used in learning activities and is very easy to use as a reference source for literacy in learning (Cabero-Almenara et al., 2021; Sahudra et al., 2021). Knowing the acceptance of technology used by students and lecturers used in online learning in the form of e-study applications will provide an overview of solutions if students experience problems during online learning (Faisal et al., 2021).

Previous research findings state that some of the obstacles experienced in online learning are the readiness of educational institutions to face online-based learning systems that are still lacking (Hutauruk & Sidabutar, 2020; R. E. Pratama & Mulyati, 2020). Other findings also state that teachers cannot design suitable online learning activities to impact student learning outcomes (Fikri et al., 2021; Primasari & Zulela, 2021). Thus, it is important to know the acceptance of technology by lecturers and students in e-learning by using e-study applications, so that good learning occurs and the achievement of competency goals expected from students. So that online learning takes place as expected. This study aims to analyze the acceptance of study applications by students of the Faculty of Engineering, Universitas Putra Indonesia, Yptk Padang using acceptance model technology (TAM). This article presents the relationship between the TAM variables (PU, PEOU, ATU, BI), each variable has a significant relationship and influence on the BI variable in the use of e-learning e-learning applications.

2. METHOD

This type of research is quantitative by conducting a survey to students. The population in this study are all students of the Faculty of Engineering, Universitas Putra Indonesia who have carried out online learning using e-study applications. The sample in this study was selected by purposive sampling which involved students in online learning using the e-study application. The instrument in this study was in the form of a questionnaire distributed to students via a google form link which was distributed online. The sample in this study amounted to 128 people consisting of 54 men and 74 women. A good research instrument is one that has been validated using the formula proposed by the experts. In this study, instrument validation was carried out using product moment correlation (Sudijono, 2011; Sugiyono, 2016). The questionnaire refers to the Likert scale distributed to students by sending a google form link. The following is the scheme of the Technology Acceptance (TAM) model proposed by Davis. Data collection is done to facilitate the processing of statistical data (Sugiyono, 2014). The data collection was analyzed through Structural Equation Modeling (SEM) and the data was processed using Lisrel software. The scheme of the Technology Acceptance (TAM) model proposed by Davis showed in Figure 1 (Alagoz & Hekimoglu, 2012).

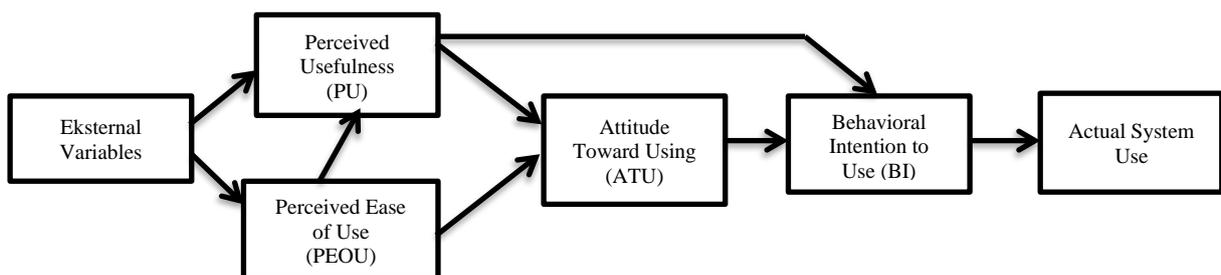


Figure 1. Technology Acceptance Model (TAM)

Figure 1 provides an overview of the acceptance of study application technology in terms of the benefits and ease of use of e-study applications that affect the attitudes and intentions of engineering students in learning in the form of e-learning (Sukendro et al., 2020a). This needs to be analyzed using the davis model so that the acceptance of the technology model is obtained (Arianto et al., 2020). A person's desire or intention to use a technology is influenced by the ease of use of the technology. The ease of use of a technology will also affect a person's attitude towards the technology (Bailey et al., 2022; Kabir et al., 2022).

3. RESULT AND DISCUSSION

Result

Based on data analysis shows the positive impacts that arise from each technology acceptance indicator in the form of learning applications in the form of e-learning by engineering students at Putra Indonesia University, Yptk Padang. The correlations showed in Table 1. The use of learning applications as an e-learning tool in online learning during the COVID-19 pandemic by students was received positively in terms of ease of use, the benefits felt by students, thus affecting students' attitudes and intentions to learn. The benefits and usefulness of a technology affect the acceptance of technology by its users and also affect the attitudes and intentions of users towards the technology. Thus the acceptance of technology by a person is influenced by the ease, the benefits obtained from the technology. The magnitude of the influence of each description indicator presented in the form of a diagram showed in Figure 2.

Table 1. Correlations

		ATU	BI	PU	PEOU
ATU	Pearson Correlation	1	.704**	.752**	.728**
	Sig. (2-tailed)		.000	.000	.000
	N	128	128	128	128
BI	Pearson Correlation	.704**	1	.720**	.707**
	Sig. (2-tailed)	.000		.000	.000
	N	128	128	128	128
PU	Pearson Correlation	.752**	.720**	1	.739**
	Sig. (2-tailed)	.000	.000		.000
	N	128	128	128	128
PEOU	Pearson Correlation	.728**	.707**	.739**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	128	128	128	128

** . Correlation is significant at the 0.01 level (2-tailed).

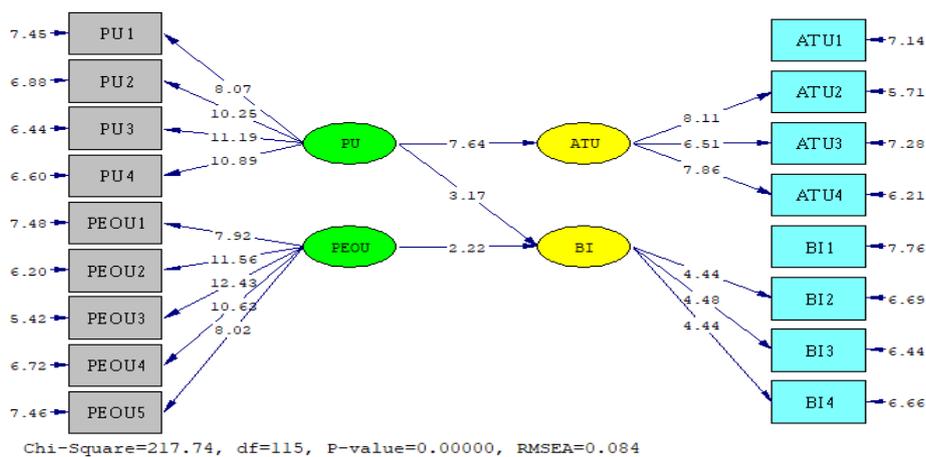


Figure 2. Model Technology Acceptance Model (TAM)

Based on the analysis of the TAM model using Lisrel 8.0, it was found the relationship between each indicator for the category of technology acceptance of the study application model for e-learning during the covid-19 pandemic. The acceptance of the use of attitudes in using study applications in e-learning by students of the engineering faculty is in the very good category as indicated by the number 7.64. Meanwhile, acceptance of usage

on intention to use study applications in e-learning is in the good category with an influence figure of 3.17. For the category of acceptance of the ease of using the study application in e-learning on the student's intention to use it during the COVID-19 pandemic, it also had a positive effect with an influence figure of 2.22. Overall, the study application technology by the students of the Faculty of Engineering, Universitas Putra Indonesia, Yptk Padang, was received positively. Perceived ease of using technology (PEOU) and perceived usefulness (PU) of technology determine a person's intentions and attitudes in relation to technology (Tahar et al., 2020).

Discussion

The attitude of engineering faculty students in accepting the use of learning applications in e-learning is in the very good category, as well as research that reveals a positive response to the use of zoom technology for online learning purposes (Alfadda & Mahdi, 2021; Sukendro et al., 2020b). A positive relationship between the ease of using technology and the intention to use it was also revealed by research (Clausen et al., 2021; Piper et al., 2016; Siti et al., 2021). Acceptance of the use of learning applications in e-learning is included in the good category, the intention to use technology applications well is also expressed in research (Novita & Helena, 2021; Yu-Fong Chang et al., 2021). For the category of acceptance of the ease of use of e-learning learning applications on students' intentions to use them during the COVID-19 pandemic, it also had a positive effect (Muntianah, Tutik S. Astuti, 2012). The benefits obtained by a person in using a technology affect a person's intention to use it (Park & Park, 2020; Quansah, 2021; Sarosa, 2021).

In his research, it was emphasized that the analysis of acceptance of online learning technology by students was very positive, because of the government's policy to provide internet quota assistance to students and teachers as well as the school. Overall, the application of the study in its use by students of the Faculty of Engineering, Universitas Putra Indonesia received a positive response. The benefits and conveniences obtained by a person from a technology affect and are related to attitudes and intentions to use the technology. In using technology, it is determined by the intention to use it (ATU), the user's intention can be seen from the user's attitude (BI) towards the technology (Quansah, 2021; Yaacob & Saad, 2020). The benefits obtained from an application are related to a person's intention and attitude to use the application. The ease of using an application is also the cause of the emergence of good intentions and attitudes from someone in using the application. The use of e-learning applications supports online learning today (Agbenyegah & Dlamini, 2019; Einstein, A., B. Podolsky, n.d.; Ritonga et al., 2020; Utami et al., 2021).

The user's intention to use and accept technology plays a very important role (Alsharida et al., 2021; MacLachlan et al., 2018). The use of e-learning technology by students in learning affects students' attitudes in using it (Fecira & Abdullah, 2020; Khafit et al., 2020). If users find a particular technology as a useful technology tool, then they have and increase positive intentions to use it, which means that there is a possibility that the intention to be developed is a positive outcome (Fathema et al., 2015; Kartal et al., 2022). A form of effort in obtaining benefits from a technology used. TAM in e-learning shows readiness (academics and students) to adopt high e-learning by paying attention to several obstacles such as the lack of ICT hardware/software, in addition to poor internet signal which is a consideration, and attention (Mousa et al., 2020).

4. CONCLUSION

This study shows that acceptance of the use of technology in the form of e-study applications by students of the Faculty of Engineering, Universitas Putra Indonesia Yptk Padang has a positive impact in terms of attitudes and intentions to use it in the form of e-learning during the covid 19 pandemic. Acceptance of e-study application technology is assumed to be influenced by user experience. The ease of using the study application is also a factor in the acceptance of the application in e-learning during the COVID-19 pandemic. The benefits received are the biggest factor in technology acceptance by engineering students at the Putra Indonesia University, Yptk Padang, in online learning activities. So, for the study application in e-learning learning at UPI Yptk Padang, it can be continued as long as the convenience and usefulness are felt by students, and can be continued for the future.

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