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The Role of Facilitating Conditions and User Habits: A Case of Indonesian Online Learning Platform*

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Abstract

The study examines the role of facilitating conditions and user habits in the use of technology in Online Learning Platform (OLP) in Indonesia. The adoption of online learning, persistence, and learning results in online platforms is essential for ensuring that education technology is implemented and gets as much value as possible. People who use technology and systems will embrace new technologies even more. This quantitative study is based on a survey of 254 respondents, who were active users of the technology, and considers the facilitating conditions and user habits variables. Two research hypotheses were tested using the Partial Least Square-Structural Equation Modeling method. Cronbach's Alpha, path coefficient, AVE, R-square, T-test were applied. The results showed that the factors significantly influence the Online Learning Platform technology behavioral intention. This impact is primarily associated with the availability of the resources required to use OLP technology. The availability of these resources includes supporting infrastructures such as widespread Internet access, easy access to mobile devices, and file sizes that affect access speed. The findings of this study suggest that it is necessary to introduce and increase the availability of resources for using OLP technology, and familiarize people with the technology features.

Keywords: Facilitating Conditions, Online Learning Platform, Technology Utilization, User Habits

JEL Classification Code: I24, P36, P46

1. Introduction

Online learning has experienced very significant development in recent years, and this is no longer the sole domain of teachers. Online learning solves the problem of time flexibility because it does not bind the users to a particular time. However, not all regions have supporting facilities available to conduct online learning (Ain et al.,

2016). The condition of limited human resources also causes relatively high inequality (Ambarwati et al., 2020). Changes and demands of the times are very fast, creating a gap in the field of information and communication technology (Broadbent & Poon, 2015). This gap has become one of the problems of how the broader community can accept technology. Developments and improvements in technology have transformed various businesses in operating industries, including the government.

The complexity in digital information affects the management, processing, storage, security, and disposal of information. New tools for collecting, searching, and analyzing organizations help businesses gain insights from their unstructured data. These technologies become essential tools to overcome the complexity of increased digital information in the long term (Lee, 2020).

Indonesian online education cannot escape from problems such as, firstly, the lack of stakeholder and management support in implementing online learning. This obstacle usually exists in institutions that are not yet fully aware of the potential and opportunities for the use of online learning to support the learning process nowadays (El Ouiridi et al., 2016; Lieharyani et al., 2019). Secondly, the infrastructure

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in some areas is not yet ready for the optimal application of online learning (Muniasamy & Alasiry, 2020). However, the infrastructure is a fundamental factor in implementing online learning, like a banking system where transactions must be available 24 hours a day, seven days a week (El-Masri & Tarhini, 2017). Thirdly, utilization of facilities in Learning Management Systems (LMS) for the learning process is minimal. Usage is still limited to learning material repositories, and there are not many interactive features between instructors and students (Al-Husban & Alshorman, 2020). The use of online learning systems in Indonesia has begun to move from merely utilizing LMS and other ICT-based tools. An in-depth review process is needed to examine the implications of online learning systems for learning achievement and teaching effectiveness (Gupta et al., 2016).

Studies on online learning state that understanding the adoption of online learning, continuation, and learning outcomes via online platforms are fundamental in ensuring that technology in education has been implemented and gets the maximum benefit (Panigrahi et al., 2018). The same conclusion also suggests that information technology plays a central role in teaching at the university. A broad introduction to technology-based education requires fundamental changes to institutions to meet the needs of students and society (Santoso et al., 2019). A previous study on student demographics from a Massive Open Online Course (MOOC) examined online learning platform Coursera. The research showed that 29.5% of students are 18-25 years old, and 30.3% are 26-34 years old (Jalil et al., 2019; Engle et al., 2015). One of the OLP technology providers in Indonesia, Ruang Guru, had more than 6 million users by the end of 2017. A large number of users of Ruang Guru proves that Indonesia already has enough OLP users (Santoso et al., 2019). The adoption of technologies such as online learning in educational systems is questioned, including funding, expertise, and ability (Gallego & Topaloglu, 2019). The online learning system introduces four different categories of challenges in developing countries – challenges to students and teachers, technology challenges, course challenges, and contextual challenges. Online learning problems also remain in learning institutions in terms of access, pedagogy, expertise, and training and equipment inequalities (Santoso et al., 2019).

Based on previous studies, this research focuses on the influence of variables facilitating conditions and user habits on OLP behavior intentions in Indonesia. Since 1970, information and communication technology in the country has developed rapidly. This development continues to run gradually, including in the business and education environment. Indonesia has implemented online learning for the learning process (Santoso et al., 2019). That is because there are many benefits found in online learning content that can be accessed anytime and anywhere. Everyone can use this facility by not having to spend a lot of time coming to a

place of learning. Besides, online learning is also beneficial for a company because it saves time and money to train its employees (Niemi & Jia, 2017). The following subsections present the company's strategic orientation depending on what it wants to achieve. Companies with strong customer focus will emphasize establishing and maintaining its customer value. It will be different if the companies focus more on their competitors because they will take the targeted competitors to a thorough assessment (Muafi, 2020). The online learning is helpful from various angles in a company, namely, anywhere, anytime, any space as long as the existence of the Internet network supports it (Swan et al., 2019). Besides, online learning content is beneficial to large companies that have many branches (Xiang et al., 2015). The management does not need to bother going to every office of the company because online learning can reach all branches of the company for training activities (Nguyen, 2015).

1.1. Facilitating Conditions

Facilitating conditions refer to the degree to which a person believes that the existing organizational and technical infrastructure can support the use of technology (Chan et al., 2010). In his study, Venkatesh stated that facilitating conditions do not affect behavioral intention, but affect use behavior. Facilitating conditions are related to the availability of sufficient resources and support for individuals to use technology (Neslin & Shankar, 2009). Lack of assistance, lack of timely support, incomplete information, and limited resources can prevent individuals from accepting web-based technology (Kamaghe et al., 2020). Internet connectivity and social networking sites have seen tremendous development in all regions of the world. Social networking sites change the way people communicate worldwide quickly. They increase electronic communication to almost face-to-face methods by one of the most popular connected devices people today use – mobile phones (Lee, 2017).

There is a tendency that older consumers face more difficulties in responding to new and complex information, so that it affects their learning process of new technology (Halili & Sulaiman, 2019; Paul et al., 2015). Conditions related to this difficulty can be associated with a decrease in cognitive abilities and memories related to the aging process (Liu et al., 2015). Therefore, when compared with younger consumers, older consumers tend to prioritize the availability of adequate support (Pimmer et al., 2019).

On the other hand, when compared to women, men are willing to make more effort to overcome various obstacles and difficulties in pursuing their goals. In contrast, women tend to focus more on the amount of effort involved and the process to achieve their goals (Venkatesh et al., 2005). Thus, it can be concluded that men tend not to depend on facilitating conditions when they consider using new technology. In contrast, women have a tendency to put more emphasis on

external supporting factors. More experience can lead to greater familiarity with technology and better knowledge to facilitate learning, thereby reducing dependence on external support (Kamaghe et al., 2020; Masadeh et al., 2016). People’s views of technological developments in the context of the relationship between the industrial revolution and environment have changed from negative to positive. Besides, high-level technology generated data that can be used for optimizing the production of goods, economic development, and corporate networking (Choi et al., 2019). Users with little technological experience will be more dependent on facilitating conditions (Paul et al., 2015).

According to Venkatesh et al. (2012), the facilitating conditions have four indicators, namely, the resources/facilities to use OLP technology, the knowledge of OLP technology usage, OLP technology compatibility with other techniques used, and the availability to get help from others when having difficulty using OLP technology (Figure 1).

H1: *Facilitating conditions have a significant influence on behavioral intentions to use online learning.*

1.2. User Habits

User habits refer to the extent to which individuals tend to adopt behavior automatically because they have learned before. In the context of consumers, habits play an essential role in the use of technology, especially in a diverse and continually-changing situation (Perrin et al., 2011; Venkatesh et al., 2012). User habits relate to individual practices or automatic behavior using technology. User habits construct perception that reflects the results of previous experiences. User habits relate knowledge, age, and gender to behavioral intention and use behavior (Tadesse et al., 2018). User habits

can significantly affect user behavior (Fakhoury & Aubert, 2017). People who use technology and systems have a greater ability to adopt emerging technologies even before using technology (Chao, 2019). However, the findings of some research have not found significant behavioral intention. User habits have four indicators developed by Venkatesh et al. (2012): (1) natural – describes the use of OLP technology as a natural thing; (2) habits – explain about the use of OLP technology as a habit; (3) must explain the purpose of OLP technology – as a must; and (4) describes addiction in the use of OLP technology (Figure 1).

H2: *User habits have a significant influence on behavioral intentions to use online learning.*

1.3. Behavioral Intentions

Behavioral intention is a variable that refers to a person’s level of intention to use technology (Budu et al., 2018; Venkatesh et al., 2012). The intended behavior is closely related to the actual behavior, and it has diagnostic value. Thus, behavioral intentions are important indicators for management to understand whether customers would remain with or defect from the company. Relationship quality also affects experience and behavior intentions significantly (Tran, 2020). The results of previous studies indicate that the frequency of technology use reduces the impact of behavioral intentions on future technology use (Al-Rahmi et al., 2019). The behavioral intention has three indicators developed by Venkatesh et al. (2012): (1) intention – explaining the plan to continue using OLP technology in the future; (2) habits – tell about the use of OLP technology in daily life; and (3) usage interests – explains the interest in continuing to use OLP technology as often as possible.

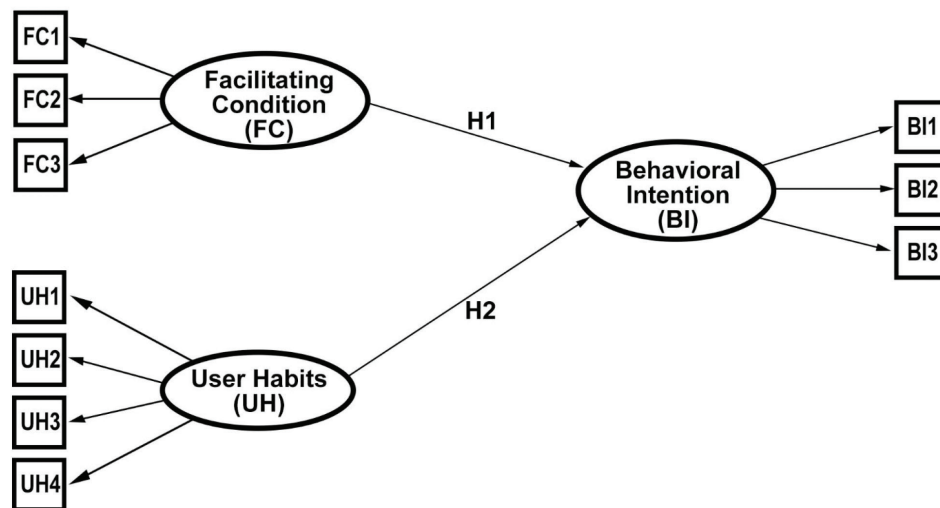


Figure 1: Conceptual Framework

2. Methods

This study aimed to examine the causal effect variable facilitating conditions and user habits on behavioral intentions in the Indonesian OLP. The objective of this study is to clarify the effect between variables built on a model equation based on relevant concepts (explanatory research). The primary data was collected from November 2019 to January 2020 using an online Google Forms questionnaire, which was distributed via various social media such as Instagram, Facebook, and WhatsApp groups. The demographic analysis conducted in this study was categorized based on gender, status, age, education, domicile, occupation, income, usage experience, and frequency of use of OLP technology.

The data collection involves a combination of methods to support the reality behind the quantitative analysis and give a substantial explanation. The researchers applied a Likert scale to measure opinions, behavior, and the respondents' perceptions. Analysis of relationship patterns from this study includes variables aimed to determine the effect of dependent and independent variables by using path model analysis. The dependent variables in this study were facilitating condition and user habits, while the independent variable was the behavioral intention. The validity test shows each item r -arithmetic > 0.30 , and the reliability test results show each item with Cronbach's Alpha value ≥ 0.5 . The dependent variable has a significant impact on the independent variable, whether the p -value < 0.05 .

3. Results and Discussion

Two hundred fifty-four respondents completed the questionnaire over ten weeks through online and offline distribution. One hundred three respondents filled out the survey online, and 151 respondents filled out the questionnaire offline. Then, the questionnaire was filtered so that only those using OLP technology (227 respondents) were included in the data. The questionnaire filled out by the respondent needs to be assessed whether the survey was appropriate for use in the next research processes. After checking the 227 questionnaires, two questionnaires were considered inappropriate due to the tendency to fill in all neutral or agree with all questions on the survey. Thus, the questionnaire data that can process for this study amounted to 225 questionnaires (Table 1). The results showed that 154 respondents (68%) were women, and 71 respondents (32%) were men.

Most of the respondents, 171 respondents (76%), were unmarried, they were still pursuing an education level, and 125 respondents (56%) were less than 23 years old. Most of the respondents, 114 respondents (51%), had high school education or equivalent. 188 respondents (84%) lived in East Java, One hundred ten respondents (48.9%) were students,

and most of the respondents, namely, 125 respondents (56%), have an income less than IDR2,500,000. Based on the results of data analysis, 110 respondents have used OLP technology for 12 months (49%), and the majority of respondents, namely, 98 people (43%), use OLP technology more than 12 times a year. In conclusion, the results of data analysis regarding the characteristics of respondents indicate that the level of acceptance of OLP technology is still low, less than 50%.

The data analysis in this study used Partial Least Square-Structural Equation Modeling. Evaluation of the structural model and the overall model of this study uses the R-square value to test the relationship between latent independent variables and latent dependent variables. These results indicated that they have a substantial effect with an R-square value of 0.512, which means that the model created in this study can explain 51.20% of all the variables analyzed. This model explains other variables outside of facilitating conditions and user habits by 51.20% and the remaining 48.80%. This model showed that the R-square value obtained from this research model is considered to form a good model. The higher the value of R-square, the better the model. The construct validity test was discriminant validity. This research instrument was considered valid since the AVE value was more significant than 0.5 ($AVE > 0.5$). Overall, research instruments for facilitating conditions indicators, user habits, and behavioral intention were valid. The reliability test of the research instrument conducted was Cronbach's Alpha analysis, with $\alpha > 0.60$, so the research instrument was considered reliable. Overall, the indicator facilitating conditions, user habits, and behavioral intention research instruments were reliable in Table 2.

Based on the analysis of data processing facility condition variables (Table 2), the indicator of knowledge related to OLP technology had the largest outer loading of 0.849. It was significant at $\alpha = 5\%$ (t -statistics = 23,525). This indicator is most dominant in reflecting facilitating conditions. Meanwhile, the indicator of the resources needed to use OLP technology had the smallest outer loading, which was positive 0.821 and was significant at $\alpha = 5\%$ (t -statistic = 22.001). This indicator was less dominant in reflecting the facilitating conditions variable.

Based on the results of testing the user habits variable, it shows that the use of OLP technology had become a habit is the most important indicator to reflect the user habit variable with outer loading 0.885 and is significant at $\alpha = 5\%$ (t -statistic = 44,453). However, indicators of user addiction to use OLP technology had the smallest outer loading of 0.815 and are significant at the t -statistic of 33,354. The most influential factor in user habits was the use of OLP technology, which had become a daily habit. Matters relating to addiction in the use of OLP technology need to get attention so that the adoption of OLP technology could run optimally.

Table 1: Respondent Demographics

Respondents Profile		Frequency	Percentage (%)
Gender	Men	71	32%
	Woman	154	68%
Status	Single	171	76%
	Married	54	24%
Age	<23 Years	125	56%
	23-38 years	91	40%
	39-54 Years	9	4%
Education	SMA / equivalent	114	51%
	D1 / D2 / D3	19	8%
	S1 / D4	56	25%
	S2 / S3	36	16%
Domicile	Jakarta	12	5%
	West Java	5	2%
	Central Java	8	3%
	Yogyakarta	4	2%
	East Java	188	84%
	Others	8	4%
Profession	Not Yet / Not Working	2	0.9%
	Student / Student	110	48.9%
	entrepreneur	11	4.9%
	Health workers	31	13.8%
	PTN / PTS lecturers	25	11.1%
	ASN / PNS	11	4.9%
	General employees	27	12%
	Others	8	3.6%
Income	< Rp 2.500.000	125	56%
	Rp. 2.500.000-Rp. 5.000.000	34	15%
	Rp. 5.000.001-Rp. 7.500.000	34	15%
	Rp.7.500.001-Rp.10.000.000	13	6%
	> Rp. 10.000.000	19	8%
Experience of Use	<1 month	27	12.0%
	1-3 months	40	17.8%
	4-6 Months	31	13.8%
	7-12 Months	17	7.6%
	> 12 Months	110	48.9%
Frequency of use	<3 times per year	40	18%
	4-6 times per year	42	19%
	7-9 times per year	24	11%
	10-12 times per year	21	9%
	> 12 times per year	98	43%

Table 2: Construct Reliability and Validity

	Cronbach's Alpha	rho_A	Composite Reliability	AVE
Behavioral Intention	0.869	0.875	0.920	0.792
Facilitating Condition	0.789	0.799	0.876	0.701
User Habit	0.868	0.871	0.910	0.717

Table 3: Outer Loading

	Original Sample	Sample Mean (M)	Standard Deviation	T Statistics	P Values
BI1 ← BI	0.875	0.875	0.020	42.962	0.000
BI2 ← BI	0.913	0.913	0.013	67.894	0.000
BI3 ← BI	0.882	0.882	0.019	45.885	0.000
FC1 ← FC	0.821	0.817	0.037	22.001	0.000
FC2 ← FC	0.849	0.846	0.036	23.525	0.000
FC3 ← FC	0.842	0.844	0.024	35.052	0.000
UH1 ← UH	0.830	0.828	0.031	26.343	0.000
UH2 ← UH	0.885	0.883	0.020	44.453	0.000
UH3 ← UH	0.856	0.856	0.027	31.537	0.000
UH4 ← UH	0.815	0.814	0.024	33.354	0.000

Based on the results of testing the behavioral intention variable, it shows that the indicator of OLP usage habits in daily life was the most important indicator to reflect the behavioral intention variable with outer loading 0.913 and is significant at $\alpha = 5\%$ (t-statistic = 67,894). However, the indicator of the user’s intention to continue to use OLP technology in the future had the smallest outer loading of 0.875 and a significant t-statistic of 42.962. This indicator of user intentions is less dominant, reflecting behavioral intention variables. The behavioral intention was a variable that stated a person’s level of intention to use OLP technology. The experience could be a moderating effect of behavioral intention to use behavior.

The effect of facilitating conditions variable on behavioral intention was significant. The path coefficient of this study was 0.258 and t-statistics of 4.207 (Table 3). The facilitating conditions had a significant effect on behavioral intention. The impact of user habits variable on behavioral intention was significant. The path coefficient of this study was 0.573 and t-statistics of 10.366 (Table 3). User habits had a significant effect on behavioral intention. The results of the analysis for construct facilitating conditions were in line with the results of previous studies on online learning, which state that there is a significant relationship between facilitating conditions and behavioral intention (Razak et al., 2017; Masadeh et al., 2016; Raman & Don, 2013). Factors such as lack of assistance and timely support, incomplete information, and limited resources can prevent individuals

from accepting web-based technology (Masadeh et al., 2016).

Previous studies have suggested that older consumers tend to prioritize the availability of adequate support (Gupta et al., 2016; Witten et al., 2011). On the other hand, previous studies stated that men made more efforts to overcome various obstacles and difficulties in pursuing their goals. At the same time, women tend to focus more on the amount of effort involved and the process to achieve their goals. In other words, men tend not to be dependent on facilitating conditions when considering the use of new technology (Hennig-Thurau et al., 2002; Santoso et al., 2019; Chan et al., 2010). Previous studies stated that more experience could lead to greater familiarity with technology and better knowledge to facilitate learning, thereby reducing dependence on external support (Broadbent & Poon, 2015; Gallego & Topaloglu, 2019). Users with little technological experience are more dependent on facilitating conditions (Suryanto et al., 2016). Age, gender, and experience of moderation did not have a significant effect on the condition of facilitation on the behavioral intention from the perception of the demo-graphic differences of respondents in this study. The majority of respondents came from the educational community, especially students. Internet support facilities using laptops and smartphones in the use of OLP technology have been widely available at low prices. Today’s students can easily reach Internet facilities, anywhere and anytime.

Table 4: Path Coefficient

	Original Sample	Sample Mean (M)	Standard Deviation	T Statistics	P Values
Facilitating Condition → Behavioral Intention	0.258	0.258	0.061	4.207	0.000
User habits → Behavioral Intention	0.573	0.574	0.055	10.366	0.000

User habits described the level to which individuals tend to perform behaviors automatically because they have learned them before (Gallego & Topaloglu, 2019; Venkatesh et al., 2012). Previous studies showed that age, gender, and experience had no significant effect in moderating the influence of user habits on behavioral intention. The results of the analysis for the construct of user habits are similar with the results of previous studies on online learning (see Table 4), which stated that there is a significant relationship between user habits and behavioral intention (Masadeh et al., 2016; Mehta et al., 2019). Habits played an essential role in the use of technology, especially in diverse and fluid situations (Venkatesh et al., 2012).

4. Conclusion

Based on the results of the analysis and discussion of the effect of facilitating conditions on behavioral intention, the provider needs to pay attention to factors related to facilitating conditions to gain more OLP users. This impact is primarily associated with the availability of the resources required to use OLP technology. The availability of these resources includes the availability of supporting infrastructures such as Internet access, easy access to use mobile devices, and file sizes that affect access speed. The opportunity to increase the number of OLP technology users in the future is wide opened. Providers also need to pay attention to factors related to user habits, especially about various things that make OLP technology an ordinary matter. The factors related to user habits are closely related to the general condition of society in Indonesia, where people is still relatively unfamiliar with new technology. There needs to be an introduction and familiarization of OLP technology usage.

The formulation of research problems, the creation of a research model framework, the collection and analysis of data, and the documentation of research results in a limited time lead to limitations in the scope and size of this study. Therefore, future research can continue on this path by using different research models, adding more samples, adding other research variables such as perceived risk and learning value, and adopting other technology platforms.

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