

Analysis Factors Influencing Intention to Use of Learning Management System (Study on Employees of Startup PT. Rantai Pasok Teknologi)

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Abstract

This study examines and analyzes the influence of self-efficacy, facilitating conditions, perceived usefulness, perceived ease of use, and attitude toward using on intention to use LMS. The research method used is a quantitative method with a descriptive approach. Data collection procedures in this study is the respondent's response, which comes from a questionnaire distributed to 154 employees of PT Rantai Pasok Teknologi (FishLog) via Google form and sent via WhatsApp containing opinions or assessments. Structural Equation Modeling Partial Least Square (SEM-PLS) is the analysis tool. The results showed a positive and significant influence on self-efficacy, perceived ease of use, perceived usefulness, attitude toward using, and intention to use. The facilitating conditions factor was found to have an insignificant effect on perceived ease of use. Companies that have used LMS must properly prepare supporting facilities and understand their employees regarding features, benefits, and other things that can keep positive attitudes and employee interest in LMS.

Keywords: self-efficacy, facilitating conditions, perceived usefulness, perceived ease of use, attitude toward using, intention to use, extended TAM.

INTRODUCTION

Technology acceptance theories and models have been built as framework to study the methods of understanding and accepting technology by users, how they can use it and what can influence someone to continue using it. Several factors such as benefits, ease of use, attitudes and other things can affect user intentions towards a system. The spread of Learning Management Systems around the world, makes LMS important to research how users intend to use the system.

With the development of technology, especially Information and Communication Technology (ICT), decisions regarding intentions to use technology are still an open question [1]. Recognizing the need and intention to use technology is the initial stage of any organization where it will be helpful to find ways of future development [2].

Configuring LMS usage intention factors is essential to measure the value and effectiveness of operational and investment costs so that it can be used as a basis for making decisions and developing systems with the aim of increasing the successful utilization of the Learning Management System [3]. Identifying usage acceptance is an important step towards the success of an LMS and examining the influence of usage acceptance is critical to measuring overall LMS adoption [4].

The research was conducted in one of the startup industries in Indonesia, where the employee's Intention to Use level in using LMS was low. Proven based on interviews with the CEO of PT Rantai Pasok Teknologi, all employees who already know LMS, but not all employees intend to use LMS. Employees more often ask information about training and modules that are sought through their colleagues than intending to access the LMS.

So that it becomes an obstacle to increasing employee knowledge & productivity. To analyze the factors that can be the intention to use technology, Extended TAM Theory aim to determine the basis for research on the influence of external factors on positive attitudes in

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intending to use technology. Researchers assume that by conducting research at PT. Rantai Pasok Teknologi will be able to answer research problems because this location is considered representative enough to be used as a research object.

MATERIAL AND METHOD

This research uses quantitative research, which explains the relationship and interaction between variables through hypothesis testing. The aim is to examine the truth of the theory and literature studies so that the research results can be generalized to the sample. Determination of research variables is based on the technology acceptance theory and literature studies. The variables of self-efficacy, facilitating conditions, perceived usefulness, perceived ease of use and attitude toward using are strong reasons for examining the determining factors that influence the intention to use the system.

Data Collection

The research was conducted on startup employees of PT. Rantai Pasok Teknologi. This study uses probability sampling techniques because the population is clearly known. This technique is a sample collection technique that provides each element or member of the population with the same opportunity to be sorted into samples. And the probability sampling technique used is proportional random sampling. The number of samples used in this study was 154 respondents. The data collection tool from respondents in this study was a questionnaire. The type of closed questionnaire used has been given answer options so that the appropriate answer can be directly selected by the respondent based on the options provided. The hypothesis in this study was tested through the SEM-PLS (Structural Equation Model-Partial Least Squares) statistical technique and assisted by SmartPLS 3.0 software.

Self-efficacy (X1)

The definition of self-efficacy is a person's belief in their ability to face and overcome certain situations or conditions. Individuals who have higher levels of self-efficacy can be concluded to be more confident and can overcome obstacles better, even able to ignore negative feedback. Conversely, individuals who have lower levels of self-efficacy can be inferred to reduce their effort when they get negative feedback [5]. In this study, self-efficacy is a

person's belief in carrying out certain tasks or achieving goals achieved using the learning management system.

Facilitating Conditions (X2)

Facilitating Conditions means the extent to which a person's decision maker believes the necessary resources (supporting infrastructure and technical matters such as time, financial resources) exist to support internet use [6]. In this study, facilitating conditions are factors or resources that can facilitate the use of learning management system. these factors include hardware, software, and users.

Perceived Usefulness (Y1)

Perceived usefulness is a construct where it is the degree to which a person believes the use of technology itself can improve one's performance achievements. Further supports that, users are more likely to do or not use technology if they think it can help a person in achieving the best results at work [7]. In this study, perceived usefulness is the employee's perception of the extent to which the use of learning management system improves the performance and or increases the effectiveness of certain tasks.

Perceived Ease of Use (Y2)

Perceived Ease of Use is the extent to which individuals can believe the use of the system is free from effort, in this context it is easy. PEOU is a measurement of individual confidence in the ability of technology systems that are easy to understand and utilize [7]. In this study, perceived ease of use is the employee's perception of the extent to which learning management system use is considered easy to use or not.

Attitude Toward Using (Y3)

Attitude is a positive or negative prejudice and or individual feelings associated with performing certain behaviors [8]. Attitude Toward Using can be defined as a pattern of initial responses to good or unfavorable conditions towards an object, in this context it can be in the form of acceptance and or even rejection [9]. In this study, attitude toward using is a person's attitude towards interest learning management system use.

Intention to Use (Y4)

Intention to use, which starts from intention, which can be interpreted as an individual's desire or interest in performing a behavior. A person's interest in a behavior is influenced by their attitude towards that behavior and also by how they predict the judgment of others when they

behave [7]. In this study, Intention to use is someone's interest in using learning management system.

RESULT AND DISCUSSION

Outer Model Evaluation

This research model consists of six latent variables including self-efficacy, facilitating conditions, perceived usefulness, perceived ease of use, attitude toward using and intention to use. Evaluation of the measurement model is stages to test the validity and reliability of a latent variable.

Convergent Validity

Convergent validity aims to evaluate the results of the validity test values each latent variable with its indicators. Rule of thumb model evaluation measurement in the SEM equation the loading factor value is expected to be > 0.7. the results of self-efficacy, facilitating conditions, perceived usefulness, perceived ease of use, attitude toward using and intention to use have met the requirements or are valid by meet the criteria for the loading factor > 0.7.

Discriminant Validity

Discriminant validity aims to prove the construct of the variable latent to predict a larger-than-construct variable the size of the correlation value of other variables. The indicators used are said to outperform other indicators of constructs when the value of cross loads and latent variable correlations of the construct is higher than other constructs. The results of self-efficacy, facilitating conditions, perceived usefulness, perceived ease of use, attitude toward using and intention to use have met the requirements or are discriminantly valid.

Composite Reliability

In addition to testing validity, model measurements were also carried out to test reliability of a construct. Reliability test is carried out to prove accuracy and consistency of the instrument in measuring constructs.

Variable	Cronbach alpha	Composite Reliability
X1	0.917	0.942
X2	0.900	0.920
Y1	0.932	0.951
Y2	0.922	0.944
Y3	0.766	0.865
Y4	0.884	0.928

The table above shows that the composite reliability value for all constructs on the variables is above 0.7 which indicates that all constructs in

the estimated model meet the discriminant validity criteria. In addition, all values of cronbach's alpha (α) and composite reliability > 0.70 so that all variables are reliable.

Inner Model

Evaluation of the structural model (Inner Model) aims to measure the relationship between one variable and another. The evaluation results of testing the structural model (inner model) using SmartPLS can be seen from the results of the R-square value on endogenous variables and Predictive Relevance (Q^2)

R-Square

R-Square is used to determine the ability of exogenous variables to explain the diversity of endogenous variables, or in other words to determine the magnitude of the contribution of exogenous variables to endogenous variables. When using SEM-PLS the inferential statistical test is termed a structural model (Inner Model) seen through the R-square value (R^2) with a value of ≥ 0.67 is a strong influence, ≥ 0.33 gives an indication of moderate influence and ≥ 0.19 gives an indication of a weak effect [9]. The test results can be seen in detail in the following table:

Variable	R-square
Perceived Usefulness	0.798
Perceived Ease of Use	0.490
Attitude Toward Using	0.731
Intention to Use	0.817

The table above shows the R-square value for the variable Perceived Ease of Use obtained at 0.490, which is included in the medium category. Meanwhile, the R-square value for other variables is included in the strong category because it has a value of > 0.670.

Predictive Relevance

In the results of the SEM-PLS model the overall goodness of fit is known from the Q^2 (predictive relevance) value. Testing the goodness of fit model is carried out using the total coefficient of determination, where the results of the test can explain how much the formed path model is able to represent the observed data. Based on the results of predictive relevance (Q^2), the result is 0.994. In this research model, endogenous latent variables have a predictive relevance (Q^2) value that is greater than 0 so that exogenous latent variables as explanatory variables are able to predict their endogenous variables or in other words prove that this model is considered to have good predictive relevance.

F² Evaluation

Effect size is used to calculate the absolute value of the contribution of each predictor latent variable to the R-Square value.

Variable	Y4	Y3	Y2	Y1	X2	X1
X1			0.955	0.106		
X2		0.053	0.009			
Y1	0.122	0.229				
Y2		0.290		1.398		
Y3	0.247					
Y4						

The f-square value of Self-efficacy (X1) on Perceived Ease of Use (Y2) is 0.955 indicating a strong effect size. The f-square values of Facilitating Conditions (X2) on Attitude Toward Using (Y3) and Perceived Ease of Use (Y2) of 0.053 and 0.009 indicate a weak effect size. Likewise Perceived Usefulness (Y1) on Intention to Use (Y4) and Self-efficacy (X1) on Perceived Usefulness (Y1) of 0.122 and 0.106 indicating a weak effect size. Meanwhile, other effect size values indicate a moderate effect size.

Hypotesis Testing

The significance of the estimated parameters provides very useful information about the relationship between the research variables. The results of hypothesis testing are as follows:

Path	Original Sample	P Values	Claim
H1 X1>Y1	0.203	0.000	Accepted
H2 X1>Y2	0.698	0.000	Accepted
H3 X2>Y2	0,069	0.329	Rejected
H4 X2>Y3	0.099	0.025	Accepted
H5 Y2>Y1	0.740	0.000	Accepted
H6 Y2>Y3	0.488	0.000	Accepted
H7 Y1>Y3	0.433	0.000	Accepted
H8 Y1>Y4	0.365	0.001	Accepted
H9 Y3>Y4	0.519	0.000	Accepted

- 1) Hypothesis 1 show that the effect of Self-efficacy (X1) on Perceived Usefulness (Y1) is significant with a p-value <0.05, which is 0.000. The original sample estimate value is positive, which is equal to 0.203 which indicates that the direction of the influence of Self-efficacy on Perceived Usefulness is positive. Thus hypothesis 1 in this study is accepted. The effect of Self-Efficacy on Perceived Usefulness is significantly positive.
- 2) Hypothesis 2 show that the effect of Self-efficacy (X1) on Perceived Ease of Use (Y2) is significant with a p-value <0.05, which is 0.000. The original sample estimate value is positive, which is equal to 0.698 which indicates that the direction of the influence of

Self-efficacy on Perceived Ease of Use is positive. Thus hypothesis 2 in this study is accepted. The effect of Self-Efficacy on Perceived Ease of Use is significantly positive.

- 3) Hypothesis 3 show that the effect of Facilitating Conditions (X2) on Perceived Ease of Use (Y2) is not significant with a p-value > 0.05, namely 0.329. Thus hypothesis 3 is rejected. The effect of Facilitating Conditions on Perceived Ease of Use is not significant.
- 4) Hypothesis 4 show that the effect of Facilitating Conditions (X2) on Attitude Toward Using (Y3) is significant with a p-value <0.05, namely 0.025. The original sample estimate value is positive, which is equal to 0.099 which indicates that the direction of the influence of Facilitating Conditions on Attitude Toward Using is positive. Thus hypothesis 4 in this study is accepted. The effect of Facilitating Conditions on Attitude Toward Using is significantly positive.
- 5) Hypothesis 5 show that the effect of Perceived Ease of Use (Y2) on Perceived Usefulness (Y1) is significant with a p-value <0.05, which is 0.000. The original sample estimate value is positive, which is equal to 0.740 which indicates that the direction of the influence of Perceived Ease of Use on Perceived Usefulness is positive. Thus hypothesis 5 in this study is accepted. The effect of Perceived Ease of Use on Perceived Usefulness is significant positive.
- 6) Hypothesis 6 show that the effect of Perceived Ease of Use (Y2) on Attitude Toward Using (Y3) is significant with a p-value <0.05, which is 0.000. The original sample estimate value is positive, which is equal to 0.488 which indicates that the direction of influence of Perceived Ease of Use on Attitude Toward Using is positive. Thus hypothesis 6 in this study is accepted. The effect of Perceived Ease of Use on Attitude Toward Using is significantly positive.
- 7) Hypothesis 7 show that the influence of Perceived Usefulness (Y1) on Attitude Toward Using (Y3) is significant with a p-value <0.05, which is 0.001. The original sample estimate value is positive, which is equal to 0.433 which indicates that the direction of the influence of Perceived Usefulness on Attitude Toward Using is positive. Thus hypothesis 7 in this study is accepted. The effect of Perceived Usefulness on Attitude Toward Using is significantly positive.

- 8) Hypothesis 8 show that the effect of Perceived Usefulness (Y1) on Intention to Use (Y4) is significant with a p-value <0.05, which is 0.000. The original sample estimate value is positive, which is equal to 0.365 which indicates that the direction of influence of Perceived Usefulness on Intention to Use is positive. Thus hypothesis 8 in this study is accepted. The effect of Perceived Usefulness on Intention to Use is significant positive.
- 9) Hypothesis 9 show that the effect of Attitude Toward Using (Y3) on Intention to Use (Y4) is significant with a p-value <0.05, which is 0.000. The original sample estimate value is positive, which is equal to 0.519 which indicates that the direction of the influence of Attitude Toward Using on Intention to Use is positive. Thus hypothesis 9 in this study is accepted. The effect of Attitude Toward Using on Intention to Use is significantly positive.

Discussion

This study revealed 9 important findings.

- 1) First, self-efficacy directly has a positive and significant effect on the perceived usefulness. The results of this study are in line with the research findings of ([11]; [12]; [13]). The findings of this study confirm that PT. Rantai Pasok Teknologi tends to have high confidence both in interacting with the LMS and also having skills in operating the FishLog LMS so that it has an impact on the perceived usefulness of the FishLog LMS.
- 2) Furthermore, self-efficacy directly has a positive and significant effect on the perceived ease of use. The results of this study are in line with the research findings of [14]. The findings of this study confirm that PT Rantai Pasok Teknologi startup employees tend to have high self-confidence both in dealing with difficulties when operating the LMS and are confident in being able to complete tasks using the FishLog LMS so that it has an impact on perceived ease of use when using the FishLog LMS.
- 3) Furthermore, facilitating conditions directly have a positive effect but do not have a significant effect on the perceived ease of use variable. These results prove that the third hypothesis is rejected and explain that facilitating conditions have little tendency to influence perceived ease of use directly. the results of this study are in line with the research findings of [15]. The finding of this study confirm that respondents who come from various age groups, gender, and socioeconomic status have different perceptions regarding their opinions on supporting facilities that affect the ease of a technology. The factor of changes in regulations and policies can also affect the results of the study.
- 4) Furthermore, facilitating conditions directly have a positive effect and have a significant effect on attitude toward using. These results prove that the fourth hypothesis is accepted and explain that facilitating conditions have a large tendency to influence attitude towards using directly. the results of this study are in line with the research finding of [11]. The findings of this study confirm that Supporting factors at PT. Rantai Pasok Teknologi such as hardware, software, users, and technicians have a strong influence on the facilitating conditions.
- 5) Furthermore, perceived ease of use directly has a positive effect and has a significant effect on the perceived usefulness variable. These results prove that the fifth hypothesis is accepted and explain that perceived ease of use has a large tendency to directly influence perceived usefulness. the results of this study are in line with the research findings of ([11]; [16]; [17]). The findings of this study confirm that startup employees of PT. Rantai Pasok Teknologi tend to have perceptions of the ease of use of the LMS such as ease of access, response time and menu displays that are easy to understand so that these things have an impact on the perceived ease of use when using the FishLog LMS.
- 6) Furthermore, perceived ease of use directly has a positive effect and has a significant effect on the attitude toward using. These results prove that the sixth hypothesis is accepted and explain that perceived ease of use has a great tendency to directly influence attitude towards using. the results of this study are in line with the research findings of ([11]; [13]; [16]). The findings of this study confirm that startup employees of PT Rantai Pasok Teknologi tend to have perceptions of the ease of use of LMS such as ease of access, response time and menu display that is easy to understand so that these things have an impact on the positive attitude of employees in using the FishLog LMS.
- 7) Furthermore, perceived usefulness directly has a positive effect and has a significant effect on the attitude toward using. These

results prove that the seventh hypothesis is accepted and explain that perceived usefulness has a great tendency to influence attitude toward using directly. the results of this study are in line with the research findings of ([12]; [18]; [19]). This finding confirms that startup employees of PT Rantai Pasok Teknologi tend to have perceptions of LMS benefits such as improving performance, productivity, effectiveness and accelerating high task completion so that these things have an impact on employees' positive attitudes towards using the FishLog LMS.

- 8) Furthermore, perceived usefulness directly has a positive effect and has a significant effect on intention to use. The results of this study are in line with the research findings of ([12]; [18]; [19]). This finding confirms that startup employees of PT Rantai Pasok Teknologi tend to have perceptions of LMS benefits such as improving performance, productivity, effectiveness and accelerating high task completion so that these things have an impact on employee interest in using the FishLog LMS.
- 9) Furthermore, attitude toward using directly has a positive effect and has a significant effect on intention to use. These results prove that the ninth hypothesis is accepted and explain that attitude toward using has a great tendency to directly influence intention to use. the results of this study are in line with the research findings of ([13]; [14]; [17]). This finding confirms that startup employees of PT Rantai Pasok Teknologi tend to have a positive attitude towards LMS such as liking to use, and suggesting high use so that these things have an impact on employee interest in using the FishLog LMS.

CONCLUSION

Based on the results of statistical analysis and discussion, it can be concluded as follows:

- 1) Factor self-efficacy on perceived usefulness has proven to have positive and significant effect, but companies must continue to monitor employee skills and knowledge on a regular basis regarding the LMS itself and monitor how their perceptions regarding the benefits and effectiveness of the LMS are felt by employees.
- 2) Factor self-efficacy on perceived ease of use has proven to have a positive and significant effect, but companies must continue to

monitor the convenience of features so that employee confidence in the ease of use of the LMS remains high and has an impact on the perceived ease of use of the LMS.

- 3) Factor facilitating conditions on perceived ease of use have proven to have a positive and insignificant effect, companies must prepare supporting facilities to support the success of the LMS itself, such as hardware and software, so that they can support the perception of ease of use felt by employees.
- 4) Factor facilitating conditions on attitude toward using has proven to have a positive and significant effect, but companies must prepare supporting facilities to support the success of the LMS itself, such as users and technicians so that they can support positive attitudes towards using LMS by employees.
- 5) Factor perceived ease of use on perceived usefulness has proven to have a positive and significant effect, but the company must make a module related to the complete procedure for using the LMS so that it can support deeper perceptions of the benefits of the LMS felt by the employees themselves.
- 6) Factor perceived ease of use on attitude toward using has proven to have a positive and significant effect, but companies must conduct training related to LMS features, both when there are updates regarding features and also there are no updates regarding these features by conducting regular training.
- 7) Factor perceived usefulness on attitude toward using has proven to have a positive and significant effect, but companies must carry out socialization regarding the benefits and response time of the LMS by conducting regular socialization.
- 8) Factor perceived usefulness on intention to use has proven to have a positive and significant effect, but companies must carry out socialization regarding the benefits, effectiveness, regulations & SOPs of the LMS by conducting regular socialization.
- 9) Factor attitude toward using on intention to use has proven to have a positive and significant effect, but companies must monitor employee utilization and positive attitudes towards LMS interest either by conducting regular surveys, or by monitoring how often they open LMS, and whether they recommend LMS or not.

This research has several limitations including filling out the questionnaire is done by self-assessment so there is a tendency for biased data. Hypothesis building mostly uses literature based on the corporate and academic industries, while the research was conducted in the startup industry. This causes some research results to be inconsistent with previous research. Generalization of research results cannot be applied to employees with the employment status of contract employees or outsourced employees, because the sample in the study was limited to permanent employees of PT Rantai Pasok Teknologi. Extended TAM is a broad research area, so future research is expected to test more variables.

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