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Article

Analysis and Design of E-Commerce (B2B) with Technology Acceptance Model Method at PT. Global Pharma Indonesia

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ABSTRACT

Technological advances make competition more competitive so companies are competing in introducing and selling goods by utilizing technology, one of the most rapid technological advances is the internet, the increasing number of internet users has a positive impact on e-commerce. Therefore e-commerce can provide information on goods, facilitate ordering of goods and is not limited by time and distance, to determine the acceptance of technology users, then the Technology Acceptance Model method is used with variables of perceived ease of use, attitude toward using, perceived usefulness, actual usage, behavioral intention. The research sample of 26 employees. Based on the results of the linear analysis noted that attitude toward using can be explained by variations in perceived ease of use, behavioral intention, and perceived usefulness of 52,5 percent, while actual usage can be explained by variations in perceived ease of use, perceived of usefulness, and behavioral intention of 72,2 percent and the remaining 47,5 percent and 27,8 percent are explained by other factors outside the model.

INTRODUCTION

Commerce or trade in general is the work of buying goods from one time and place and selling these goods at other places and times to get profit [1].Technological developments make competition increasingly competitive, so companies are competing to introduce and sell products by taking advantage of technological developments. With the advancement of technology in this era of globalization, every company strives to always increase its marketing and production in order to get the maximum possible profit.

One of the fastest technological advances is the internet. Therefore, with the increasing number of internet users, e-commerce provides various opportunities to conduct electronic commercial transactions. All business people

easily have a business relationship with another business, and have a direct relationship with consumers.

E-commerce as a form of advancement in information technology has broughta number of changes, including reducing the cost of interaction between buyers and sellers, easier interaction and without limitation of time and place, easier promotion and opportunities to expand market share without having to have large capital, increased transparency and service to consumers [1]. However, based on the results of the 2019 E-commerce Statistics survey by the Central Statistics Agency, only 15.08 percent of businesses use e-commerce. This shows that the business carried out via the internet in Indonesia is still relatively low, business in Indonesia is still dominated by conventional types of business, therefore e-commerce opportunities are wide open [3]. The Technology Acceptance Model method was chosen to explain how technology users accept and use technology related to user work [4].

I. LITERATURES REVIEW

From the results of previous research, the results of multiple linear regression analysis obtained a two-sided t test significance level for the variable perceived ease of use of 0.00, smaller than 0.05 with a positive regression coefficient of 0.428. This shows that Hypothesis 1 is accepted, which means that perceived ease of use has a positive and significant effect on attitude toward using. This positive effect means that the better the perception of e-commerce users (UKM) about the ease (perceived ease of use) is formed, the more confident the attitude of e-commerce users (UKM) in using e-commerce (attitude toward using) in SMEs. Crafts in Gianyar Regency [4]. And thus the results of other research that Perceived Usefulness has a significant effect on the Utilization of E-Commerce in UKM in Palembang City, they believe that using this system can help to get performance benefits in their work. Perceived ease of use has a significant influence on the use of E-Commerce on the benefits of E-Commerce which is relatively easy to use and based on the results of short interviews with respondents, information is obtained that most respondents already have expertise or experience using computers. It can be concluded that the variable Perceived Usefulness, Perceived ease of use can determine the benefits and effectiveness of E-Commerce in UKM in Palembang City [6].

Website

Website or shortened as web, can be interpreted as a set of pages consisting of several pages containing information in the form of digital data in the form of text, images, video, audio, and other animations provided through an internet connection [7].

Internet

Internet (INTERnationalNETwork) can be interpreted as an international computer network, thousands of computer systems that are connected to one another. The presence of the internet has biased national borders so that important information can be quickly and very easily distributed throughout the world. With these connected computers, it is possible to exchange data files and information contained on each computer [8].

E-Commerce

E-Commerceis the process of buying, selling, transferring, or exchanging products, services or information via computer networks, including the internet [8]. E-Commerce itself has several types of transactions, namely:

a. Business to business (B2B), transactions carried out by both the seller and the buyer are organizations or companies.
b. Collaborative trading, transactions conducted by collaborative business partners electronically
c. Business to consumer (B2C), transactions are carried out by companies and buyers are individuals
d. Consumer to consumer (C2C), a transaction carried out by someone selling a product or service to another person.

II. METHODS

Technology Acceptance Model

Technology Acceptance Model (TAM) is a model for predicting and explaining how technology users accept and use technology related to user work. The Technology Acceptance Model comes from a psychological theory to explain how information technology user behavior is based on belief, attitude, intention and user behavior relationships. One of the factors that can influence is the user's perception of the usefulness and ease of use of information technology as an action in the context of information technology users so that one's reasons for seeing the benefits and ease of use make that person's actions accept the use of information technology [3].

TAM testing is carried out using research cakeisters so that it can be seen how much the level of understanding and acceptance of system users to the real conditions obtained from users as application users and samples of research conducted [4]. Based on previous empirical studies in this study, the following hypothesis is compiled:

H1: Perceived Ease of Use of E-Commerce positive and significant on Attitude toward Using E-Commerce.

H2: Perceived Usefulness of E-Commerce positive and significant on Attitude toward Using E-Commerce.

H3: Behavioral Intention to Use E-Commerce positive and significant on Attitude toward Using E-Commerce.

H4: Perceived Ease of Use of E-Commerce positive and significant on Actual Usage of E-Commerce.

H5: Perceived Usefulness of E-Commerce positive and significant on Actual Usage of E-Commerce.

H6: Behavioral Intention to Use E-Commerce positive and significant on Actual Usage of E-Commerce.

III. DISCUSSION

This study took the object of research at PT. Global Pharma Indonesia Tangerang, Banten. This study aims to determine the acceptance of the E-Commerce application system that has been designed. The flow of the order for goods is carried out by the customer, then the order will enter the admin invoice menu, then the admin will confirm the order and the customer makes a payment then uploads proof of payment and the admin will print an invoice and the goods will be sent.

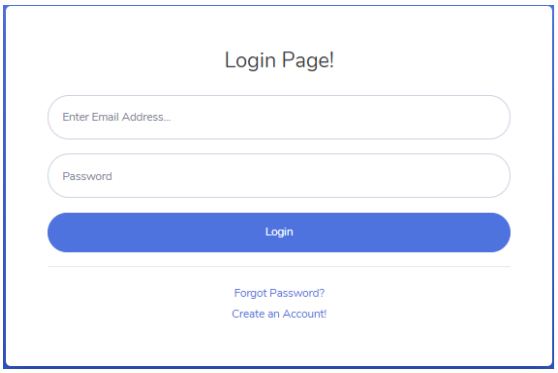

Figure 1. Login Page

The login display of e-commerce applications used in applications that have been designed is shown in Figure 1.

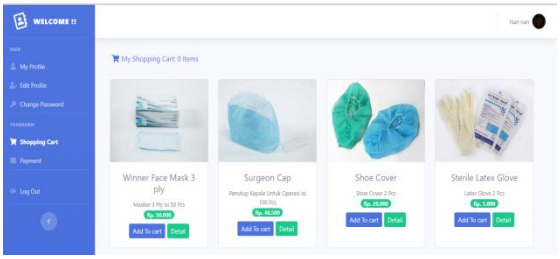

Figure 2. Shopping Cart Display

The display of the ordering page for goods used in e-commerce applications that has been designed is shown in Figure 2.

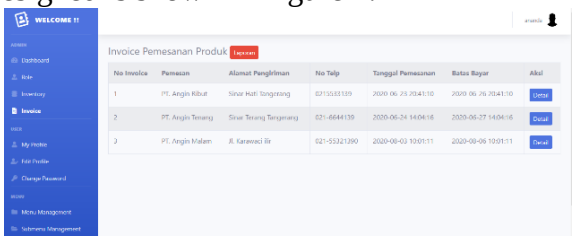

Figure 3.Invoice Menu

Orders that enter will appear on the invoice menu as shown in Figure 3

Based on this application, the research was conducted to determine the effect of each variable. Sampling was conducted at PT. Global Pharma Indonesia on July 6, 2020 for 26 out of a total of 60 employees. The questionnaire was distributed to respondents using the Google Forms application.

Table 1. Detail of Questionnaire

No	Detail of Questionnaire	Total
1	Distributed Questionnaire	26
2	Returned Questionnaire	26
3	Filled Questionnaire	26
4	Distributed Questionnaire in Percentage	100%
5	Returned Questionnaire in Percentage	100%

The test stage at TAM is testing each statement item, as well as the recap results of the respondents' answers in Table 1.

A description of the answers to the questionnaire in Table 2.
SS : Strongly Agree
S : Agree
N : Neutral
TS : Disagree
STS: Totally Disagree

Table 2. Recap Answers

Variabel	SS	S	N	TS	STS
PEoU1	11,53	73,07	15,38		
PEoU2	3,84	80,76	15,38		
ATU1	15,38	80,76	3,84		
ATU2	11,53	84,61	3,84		
PU1	7,69	80,76	11,53		
PU2	11,53	80,76	7,69		
PU3	19,23	80,76			
BI1	7,69	88,46	3,84		
BI2	11,53	84,61	7,69		
AU		88,46	11,53		
Total	99,95	823,1	80,72		
Prosentase	**9,96**	**82,05**	**8,04**		

Source : Result of the questionnaire data

Table 3. Summary of Answers

x1	*Perceived Ease of Use* / PEoU 1
	Perceived Ease of Use / PEoU 2
x2	*Perceived Usefulness* / PU 1
	Perceived Usefulness / PU 2
	Perceived Usefulness / PU 3
x3	*Behavioral Intention* /BI 1
	Behavioral Intention / BI 2
y1	*Attitude Toward Using* /ATU 1
	Attitude Toward Using / ATU 2
y2	*Actual Usage* /AU

From the table variables above, the Instrument Test, Classical Assumption Test and Multiple Linear Analysis were carried out.

1) Instrument Test
   a. Validity Test

Table 4. Validity Test Of Variabel X

Correlations

		x1	x2	x3	x
x1	Pearson Correlation	1	.369	.414*	.840**
	Sig. (2-tailed)		.070	.040	.000
	N	25	25	25	25
x2	Pearson Correlation	.369	1	-.049	.474*
	Sig. (2-tailed)	.070		.817	.017
	N	25	25	25	25
x3	Pearson Correlation	.414*	-.049	1	.763**
	Sig. (2-tailed)	.040	.817		.000
	N	25	25	25	25
x	Pearson Correlation	.840**	.474*	.763**	1
	Sig. (2-tailed)	.000	.017	.000	
	N	25	25	25	25

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

Source :Output SPSS

Tabel 5. Validity Test Of Variabel Y

Correlations

		y1	y2	y
y1	Pearson Correlation	1	.463*	.816**
	Sig. (2-tailed)		.020	.000
	N	25	25	25
y2	Pearson Correlation	.463*	1	.890**
	Sig. (2-tailed)	.020		.000
	N	25	25	25
y	Pearson Correlation	.816**	.890**	1
	Sig. (2-tailed)	.000	.000	
	N	25	25	25

*. Correlation is significant at the 0.05 level (2-tailed).

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

Source: OutputSPSS

The results of the observations on the r table obtained the value of the sample (N) = 26 of 0.3882. consisting of y1, y2 all of which produce values (r count)> than r table, and it can be concluded that all instruments in this study are declared valid.

b. Reliability Test

Table 6. Reliability Test OfVariabel X

Reliability Statistics

Cronbach's Alpha	N of Items
.816	7

Source: Output SPSS

Table 7.Reliability Test OfVariabel Y

Reliability Statistics

Cronbach's Alpha	N of Items
.824	3

Source: OutputSPSS

From the results of the reliability testing above, which was carried out using the SPSS for windows application, it was stated that the x and y variables were declared reliable, because both cronbach's alpha values were> 0.60 and could be continued to the next test.

2) Classic Assumption Test

a. Normalitiy Test

Table 8.Normalitiy Test

One-Sample Kolmogorov-Smirnov Test

			x	y
N			18	18
Normal Parameters[a,b]	Mean		11.94	8.00
	Std. Deviation		.236	.000[e]
Most Extreme Differences	Absolute		.538	
	Positive		.407	
	Negative		-.538	
Test Statistic			.538	
Asymp. Sig. (2-tailed)[c]			.000	
Monte Carlo Sig. (2-tailed)[d]	Sig.		.000	
	99% Confidence Interval	Lower Bound	.000	
		Upper Bound	.000	

a. Test distribution is Normal.

Source: Output SPSS

The normality test was done by using the Kolmogorov Smirnov test. The results of the normality test showed that the data were not normally distributed because the results of normality testing using SPSS for windows showed Asymp. Sig. (2-tailed) <0.05 because of the Asymp. Sig. (2-tailed) is worth 0.000.

b. Multicollinearity Test

Table 9.Multicollinearity Test

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	1.824	1.708		1.068	.296		
	y	1.294	.215	.776	6.019	.000	1.000	1.000

a. Dependent Variable: x

Source: Output SPSS

From the calculation results in the table above, it shows that the tolerance value is greater than 0.1 and the VIF value = 1, where the value is less than 10, so it can be concluded that it is free from multicollinearity.

c. Heteroscedasticity Test

Table 10.Heteroscedasticity Test

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-1.186	1.005		-1.179	.250
	x	.133	.083	.312	1.607	.121

a. Dependent Variable: Res1

Source: Output SPSS

From the results of heteroscedasticity testing using the Glejser test, the significance results of the x variable or the independent variable showed a result of 0.121, which is above the standard significance value of 0.05. So it can be concluded that heteroscedasticity does not occur.

3) Multiple Linear Analysis

a. F Test

Table 11.F Test Of Variable Y1

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.075	3	.358	10.228	.000[b]
	Residual	.771	22	.035		
	Total	1.846	25			

a. Dependent Variable: y1

b. Predictors: (Constant), x3, x2, x1

Source: Output SPSS

Table 12.F Test Of Variable Y2

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.021	3	1.007	22.635	.000[b]
	Residual	.979	22	.044		
	Total	4.000	25			

a. Dependent Variable: y2

b. Predictors: (Constant), x3, x2, x1

Source: Output SPSS

The results of the F test show that the value of F count> F table is 3.37 for the first dependent variable (attitude toward using) (Y1) of 10.228 with a significant F or P value of 0.000 less than α = 0.05 and the calculated F value> F table 3.37 for the second dependent variable (actual usage) of 22.635 with a significant F or P value of 0.000 less than α = 0.05, this means that the model used is feasible and is able to predict or explain the phenomenon under study.

b. T Test

Tabel 13.T Test Of Variable Y1

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	4.605	.638		7.219	.000
	x1	.173	.109	.283	1.588	.127
	x2	-.550	.153	-.550	-3.605	.002
	x3	.217	.086	.421	2.530	.019

a. Dependent Variable: y1

Source: Output SPSS

Tabel 14. T Test Of Variable Y2

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-.593	.719		-.825	.418
	x1	.211	.122	.235	1.722	.099
	x2	.439	.172	.298	2.554	.018
	x3	.487	.097	.643	5.044	.000

a. Dependent Variable: y2

Source: OutputSPSS

By comparing the value of T count> T table, then H0 is rejected and Ha is accepted, then if T count <T table, then H0 is accepted and Ha is rejected. Based on the results of the T test on the first dependent variable (attitude toward using) (Y1) only Behavioral Intention (X3) is H0 rejected and Ha is accepted and has a significant effect with the value of T count> T table, namely 2.530> 2.056 with a significant 0.019 less than α = 0 , 05 while the T test results on the variable for the second dependent variable (actual usage) (Y2) variable Perceived Usefulness (X2) and Behavioral Intention (X3) H0 is rejected and Ha is accepted and has a significant effect with the value of T count> T table namely 2.554> 2.056 with a significant 0.018 less than α = 0.05 in the Perceived Usefulness (X2) variable and 5.044> 2.056 with a significant 0.000 less than α = 0.05 in the Behavioral Intention (X3) variable.

c. Coefficient of Determination Test

Table 15. Coefficient of Determination Test Variable Y1

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.763[a]	.582	.525	.187

a. Predictors: (Constant), x3, x2, x1

Source: Output SPSS

Table 16. Coefficient of Determination Test Variable Y2

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.869[a]	.755	.722	.211

a. Predictors: (Constant), x3, x2, x1

Source: Output SPSS

The amount of Adjusted R2 for the first dependent variable (attitude toward using) is 0.525. This means that variations in attitude toward using can be explained by variations in perceived ease of use, behavioral intention, and perceived usefulness of 52.5 percent, while the remaining 47.5 percent is explained by other factors outside the model. In the second dependent variable (actual usage), the amount of Adjusted R2 is 0.722. This means that actual usage variations can be explained by variations in perceived ease of use, perceived usefulness, and behavioral intention by 72.2 percent, while the remaining 27.8 percent is explained by other factors outside the model.

IV. CONCLUSION

Based on the research that has been done, it can be concluded that Perceived ease of use, Perceived Usefulness, and Behavioral intention have a significant effect on Actual Usage and can be explained by variations in perceived ease of use, perceived of usefulness, and behavioral intention by 72.2 percent, while the rest 27.8 percent is explained by other factors outside the model.

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BIOGRAPHY

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