Obstacle Factors Analysis on
E-Commerce Transactions of Gadgets and Accessories

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Article Informatin:	**Abstract**
	This study aims to see the main obstacles in e-commerce transactions on gadgets and accessories products. The main obstacles are the independent variable consists of lack of capital and lack of skilled labor. The data used in this study is secondary data from a publication owned by the Central Statistics Agency entitled "E-Commerce Statistics 2020". Multiple linear regression analysis was the quantitative method used to test the variables. This study shows a significant effect of the independent variables tested on the dependent variable, either jointly or partially

INTRODUCTION

The progress of information networks that are overgrowing has led to the development of all kinds of activities carried out by humans, one of which is the development of buying and selling transactions. Nowadays, with just a finger on a mobile phone or laptop screen, everyone can buy the products and services they want and need. Previously everyone had to go to the store to buy and sell, which may cause many costs and wasted time and cause fatigue afterward. E-commerce transactions are the ways that can be done to reduce the cost of acquiring a product.

E-commerce transactions become a significant opportunity for business actors to increase their transactions. The increasing number of marketplaces that have emerged in recent years provides convenience for everyone to conduct e-commerce transactions, both as buyers and sellers.

Competition between sellers in e-commerce is getting more challenging, so it is interesting to research the success of business actors by analyzing the main obstacles in e-commerce transactions. This paper will examine some of the main obstacles experienced by e-commerce business actors on gadget products and accessories.

Based on existing secondary data, fashion products are the most purchased products in e-commerce transactions compared to other products. In conducting e-commerce transactions, there are several obstacles based on BPS data. The main obstacles include lack of capital, lack of skilled labor, and lack of demand for goods/services. It is interesting to examine whether these constraints are factors that influence e-commerce transactions on gadgets and accessories products. Gadgets and accessories are the most products sold in e-commerce transactions in the seventh rank based on a BPS survey (Luthfi et al., 2021).

The survey was conducted by BPS using a questionnaire to 17,063 business actors in 34 provinces, but only 99.64% or 16,227 samples of businesses can be analyzed.

LITERATURE REVIEW

The scope of research

This study covers the scope of e-commerce transactions on gadget products and accessories in 34 provinces in Indonesia during the 2019 period. The author tries to measure the significance of each independent variable which is the obstacle factor for e-commerce transactions limited to the obstacle factors in the form of lack of capital and lack of skilled labor.

E-Commerce Transactions

E-commerce is a commercial electronic transaction carried out by sellers and buyers or carried out by other parties which have the same agreement relationship such as to make deliveries of goods, services, or transfer of rights (Fadhillah, 2020).

Main Constraints of E-Commerce Transactions

E-commerce transactions have many obstacles, including limitations in terms of non-technology such as the absence of government regulations in conducting trade transactions through e-commerce, the assumption that e-commerce is inconvenient and expensive, and many buyers and sellers waiting for the ecosystem e-commerce become normal so that they can participate (Firmansyah, 2017). In addition to these obstacles, in a survey conducted by BPS in 2020, there are several main obstacles experienced by micro, small, and medium enterprises actors in selling their products/services through e-commerce. These obstacles are lack of capital, skilled labor, lack of demand for goods/services, limited internet access, and fraud in buying and selling. This paper uses two main constraints as independent variables: lack of capital and lack of skilled labor.

Lack of Capital

Capital is an essential and absolute factor to have in doing business. The greater the capital of a business, the more flexible the business will be in developing and expanding its business. Conversely, the less capital a business has, the more difficult it will be for the business to develop. Every business development requires capital to make it happen, according to Riyanto (Putri et al., 2014). The size of the capital will affect the development of a business in achieving income. Capital is not only in the form of money, but capital in a business can also be courage, knowledge, and experience in running a business and labor.

Lack of Skilled Manpower

Labor is a business capital. A skilled workforce is one of the success factors in a business. The labor force is a workforce with a job, or a population of productive age to work or have a job but temporarily does not have a job or is looking for work (Arrozi & Sutrisna, 2018). The workforce needed to overcome the obstacles in this e-commerce transaction is a skilled and educated workforce. Higher education workers do not always indicate a skilled and educated workforce. Skilled workers are also workers who have experience and can use their experience to solve problems that may occur in a business.

A skilled and educated workforce can also create by taking courses related to e-commerce so that these workers have more broad insight into the e-commerce industry.

Gadgets and Accessories

Gadgets are electronic products related to technology, including mobile phones, computers, tablets, telephone credits, and accessories. According to (Marpaung, 2018), gadgets are sophisticated products made with various applications to display hobbies, news, social media, and even entertainment. The accessory products such as wireless cellphones, wireless earphones, hands-free travel chargers, and casings.
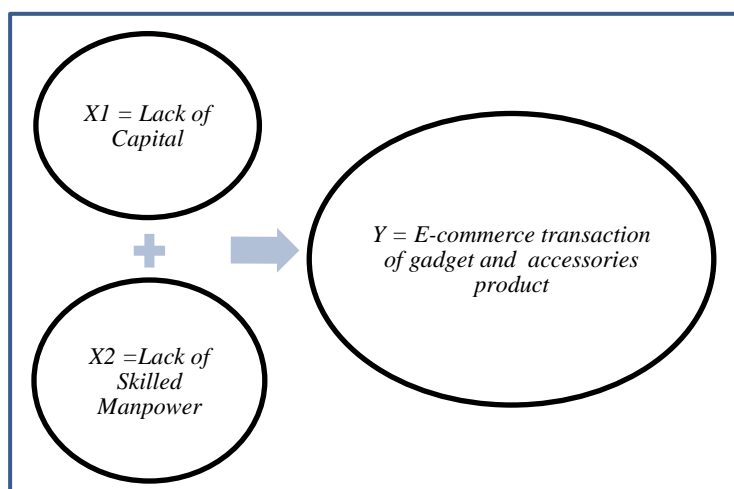
METHOD

Research Hypothesis

Based on the background and theoretical basis of the author's hypothesis, several obstacle factors significantly affect e-commerce transactions on gadgets and accessories products.

Research Model

The following is the research model used:

Figure 1. Research Model
Source: Secondary data processed in 2021

RESEARCH METHODS

Data collection technique

The data collection technique used for this paper is to use secondary data obtained based on the Central Statistics Agency survey results published under the title "E-Commerce Statistics 2020". The survey results used from 34 provinces in Indonesia were 16,227 business samples.

Data analysis technique

Based on the data from the BPS survey consisting of 34 provinces, a multiple linear regression analysis was carried out using the "EViews" application. However, prior to the regression analysis test, the existing data was tested for classical regression assumptions using the normality, heteroscedasticity, and multicollinearity testing methods.

Classical Regression Assumption Test

The classical regression assumption test is carried out to ensure that the data used is appropriate in providing estimates, feasible and unbiased. The following are classical regression assumption tests performed in this paper: normality, multicollinearity, and heteroscedasticity.

Multiple Linear Regression

Multiple linear regression analysis is a way of testing that is carried out to see the attachment of independent variables that have a number of more than 1, with the dependent variable. Thus the formula used in the multiple linear regression equation in this research is as follows:

$Y = + 1X1 + 2X2 + \varepsilon$

Information :

Variable Y   = E-commerce transactions for gadgets and accessories

Variable X1 = Lack of capital

Variable X2 = Lack of skilled labor

ε = residual value

Linearity Test

The definition of the linearity test has two interpretations. The first interpretation is a condition where the dependent variable (Y) has a linear function with the independent variable (X). The second interpretation is linearity in the parameters where the dependent variable has a linear relationship with the independent variable in the parameter (Gujarati & Porter, 2009). The linearity test was carried out using the E-views application by testing the significance level. If the significance level is more than 0.05, it can be interpreted that there is a linear relationship between the dependent variable and the independent variable. (https://penalaran-unm.org/uji-linearitas/, 2018).

Ramsey RESET Test
Equation: UNTITLED
Specification: Y C X1 X2
Omitted Variables: Squares of fitted values

	Value	df	Probability
t-statistic	1.363893	30	0.1827
F-statistic	1.860205	(1, 30)	0.1827
Likelihood ratio	2.045453	1	0.1527

F-test summary:

	Sum of Sq.	df	Mean Squares
Test SSR	90.69447	1	90.69447
Restricted SSR	1553.347	31	50.10797
Unrestricted SSR	1462.652	30	48.75508

Based on the test results above, F-statistic $0.1827 > 0.05$, it can be concluded that there is a linear relationship between variables.

Normality test

According to Ghozali (Maslakhah & Sutopo, 2017), an easy way to detect residual normality is by graphical analysis, if the pattern is located around the diagonal line and explores the direction of the diagonal line showing a fair distribution or the regression model fulfills the assumption of normality.

Series: Residuals	
Sample 1 34	
Observations 34	
Mean	7.85e-15
Median	0.502336
Maximum	16.87145
Minimum	-21.89230
Std. Dev.	6.860840
Skewness	-0.481543
Kurtosis	5.427012
Jarque-Bera	9.658727
Probability	0.007992
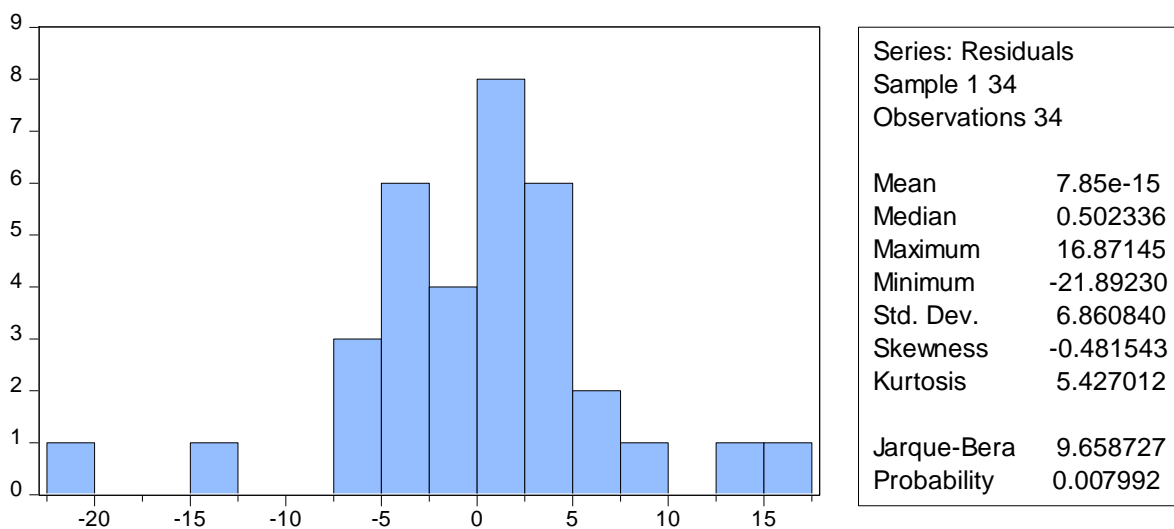
Source: Processed secondary data (2021)
Figure 2. Normality Test Results

The value of Jarque-Bera (JB) in the histogram above is 9.658727, and the value of the Chi-square table in this study is 48.6024 so it can be said that the JB value < Chi-square table value or $9.658727 < 48.6024$. Based on the Jarque-Bera value, it can be said that the secondary data used in this study were normally distributed.

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Multicollinearity Test

According to Ghozali (Ayuwardani & Isroah, 2018), the multicollinearity test is used to determine whether or not there is a correlation between the independent variables contained in the regression model. It can be done by looking at the VIF value < 10. The good regression model does not contain multicollinearity.

Table 1. Multicollinearity Test Results

Variance Inflation Factors
Date: 01/15/22   Time: 23:36
Sample: 1 34
Included observations: 34

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	41.24859	27.98861	NA
X1	0.023521	20.56083	1.013554
X2	0.056399	6.139750	1.013554

In table 1, the results of the multicollinearity test, the centered VIF values listed in the independent variables are lack of capital of 1.013554, lack of skilled labor of 1.013554, thus, each centered VIF value of less than 10 indicates that the predicted model does not indicate any multicollinearity.

Heteroscedasticity Test

Table 2. Heteroscedasticity Test Results

Null hypothesis : Homokedasticity			
F-statistic	*0,264081*	*Prob. F(3,30)*	*0,8507*
*Obs*R-squared*	*0,874774*	*Prob. Chi-Square (3)*	*0,8315*
Scaled explaned SS	*0,946042*	*Prob. Chi-Square (3)*	*0,8143*

In the results of the heteroscedasticity test above, the Chi-square probability value on Obs*R-squared is 0.8315. The Chi-Square probability value is greater than the predetermined error rate of 5% or 0.05. Thus it can be said that there is no indication of heteroscedasticity in the residuals.

Multiple Linear Regression Analysis

The following is table 3 which is the result of multiple regression analysis from secondary data processing using the eviews application.

Table 3.

Multiple Regression Analysis Results

Dependent Variable:
Y
Method: Least
Squares
Sample: 1 34
Included
observations: 34

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	53,5578	6,4210	8,3390	0.0000
X1	- 0,7033	0,1534	4,5856	0.0001
X2	- 0,0082	0,2374	0,0348	0.9724

R-squared	0,4070	Mean dependent var	78,2659
Adjusted R-squared	0,3688	S.D. dependent var	8,9094
S.E. of regression	7,07864	Akaike info criterion	6,8361
Sum squared resid	1.553,347	Schwarz criterion	6,9708
Log-likelihood	-113,2146	Hannan-Quinn criter.	6,8821
F-statistic	10,6383	Durbin-Watson stat	2,0648
Prob(F-statistic)	0,000304		

Coefficient of Determination Test (Adjusted R-squared)

In the output table of multiple linear regression analysis above, there is a coefficient value in adjusted R squared table 3 which is 0.3688, so it can be concluded that 36.88 percent of the independent variables used in the study affect the dependent variable, the rest is influenced by other independent variables that are not used in research.

F Test

The F test was conducted in order to know whether the independent variables used in the study had a joint effect on the dependent variable. The effect of these independent variables can be seen by looking at the results of the multiple regression table output that the probability value of the F statistic is less than 5% (Prob. (F-statistic) < 0.05).

The following is the decision of the research statistical hypothesis:

H0: the independent variables, namely lack of capital, lack of skilled labor, and lack of demand for goods/services together have no significant effect on the dependent variable of e-commerce transactions for gadgets and accessories.

H1: independent variables, namely lack of capital, lack of skilled labor, and lack of demand for goods/services together have a significant effect on the dependent variable of e-commerce transactions for gadgets and accessories.

The decisions used in determining whether the research hypothesis is accepted or not are based on the following:

When the value of Prob. (F-statistic) > 0.05 or F count < F table then the decision is: H0 is accepted and H1 is rejected.

When the value of Prob. (F-statistic) < 0.05 or F count > F table, the decision is: H0 is rejected and H1 is accepted.

Thus, based on the value of Prob. (F-statistic) on the output of multiple linear regression, namely 0.000304 <0.05, it was decided that this study rejected H0 and accepted H1, in other words, the independent variables had a significant effect on the dependent variable.

T-Test

The T-test is needed to test the effect of each independent variable on the dependent variable (Lind et al., 2014). Decision making can be done by looking at the p-value (probability) of the research output, the following is the hypothesis of the research:

If the probability value > 0.05 then the decision is: H0 is accepted and H1 is rejected.

If the probability value < 0.05 then the decision is: H0 is rejected and H1 is accepted.

Thus, the decision on the results of the research can be described as follows:

1. The p-value of the variable lack of capital = 0.0001 < 0.05, so H0 is rejected and H1 is accepted, which means the independent variable lack of capital partially has a significant and positive effect on the dependent variable of e-commerce transactions for gadgets and accessories products. The less capital you have, it can be concluded that the lower the e-commerce transactions for gadgets and accessories.

2. The p-value of the variable lack of skilled workers = 0.9724 > 0.05, so H0 is accepted and H1 is rejected, which means that the independent variable lack of skilled workers partially has no significant and positive effect on the dependent variable of e-commerce transactions for

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gadgets and accessories products. The less-skilled workers they have, it cannot be concluded that the lower the e-commerce transactions for gadgets and accessories.

Based on the coefficient value generated in the output table, the equation of multiple linear regression is obtained as follows:

$Y=53.55782 +(-0.7034*X1) + (-0.0082*X2) + \varepsilon$

By looking at the results of the multiple linear regression equation formulae, the conclusions that can be drawn are as follows:

1. There is a coefficient value of the variable lack of capital of -0.7034, with this value indicating that the lack of capital has an influence on e-commerce transactions on gadget products and accessories, so that if there is a lack of capital variable, it will result in barriers to e-commerce transactions on gadget products and accessories by -0.7034 percent.

2. There is a coefficient value of the variable lack of skilled labor of -0.0082, assuming ignoring other independent variables, this shows that the lack of skilled labor has an influence on e-commerce transactions on gadgets and accessories products, so if there is a lack of labor variable skilled, it will result in barriers to e-commerce transactions on gadgets and accessories products by -0.0082 percent.

CONCLUSIONS AND RECOMMENDATIONS
Conclusion

The independent variable, namely the lack of capital, has a significant influence on e-commerce transactions on gadgets and accessories, either jointly or partially. While the variable lack of skilled labor has a low level of significance because, in e-commerce transactions, the processes carried out on e-commerce transactions do not require special knowledge of the products being sold, the description of each product is clearly stated in the product window uploaded on the website or marketplaces.

Suggestion

For business actors of gadgets and accessories, there is a great opportunity to be able to make transactions through e-commerce with a capital that is not too large, because it can be done using a drop shipping system or selling low-risk products such as internet packages, or accessory products with low capital.

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