

# The Influence of Payment System, Ordering System, and Shipping System towards E-Commerce Fraud

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## Abstract

This study aims to examine the influence of payment systems, ordering systems, and shipping systems to fraud e-commerce. Payment systems are measured from policies, laws, institutions, operational mechanisms & payment instruments, and infrastructure. Ordering system is measured from product, price, place (website view), and promotion. The shipping system is measured from speed, accuracy, volume, and condition. The sample selection was done by using purposive sampling method. The data of this study were collected from people in Sawah Baru Tangerang Selatan, the sample use 100 respondents with the condition that they had been online shopping at Bukalapak, 18-25 years old, 26-35 years old and > 35 years old, students, students and work, work. The analysis technique used is multiple regressions in SPSS version 23. The results of this study indicate that payment system, ordering system, and shipping system takes significant and positive effect towards fraud e-commerce.

**Keywords:** payment system, booking system, shipping system, fraud.

## Introduction

Along with the growth numbers of internet users, many companies run their business through internet by using electronic media or as known as e-commerce. E-commerce is a deployment, purchasing, selling, and marketing goods and service through electronic system, such as internet or television. Many internet users make a transaction, selling or buying, through the internet. Advanced technology, especially the internet, easily can overcome the problems that include distance, time, and cost. Nowadays, there is a development in transaction processing that can be done anywhere and anytime. Furthermore, e-commerce was launched and it becomes a tool to make online financial transactions.

Fraud cases that occur with the sellers or buyers in Bukalapak are caused by systems that can cause lose to various parties, i. e. the payment systems in fraud cases caused there are a lot of people are cheated when they have paid the goods that they want to buy; in fact the goods are out of stock. The buyers complain to Bukalapak, but there are no responses and buyers incurred losses. Then, in the ordering system, frauds that occur, for example, the goods are different to the picture and the specification. The last is shipping systems; the fraud case is, for example, the goods are damaged when the customer gets them because there are no security packages. Then, the subsequent frauds is the buyers purchase a product and order it with express delivery, delivered in one day, in fact the goods are sent

without express delivery. This shows that the consumers are loss because they already pay the rate higher than the standard rate for shipping. There are also the cases about the non-timely shipment and the shipment rate that are not update in the Bukalapak site. From the cases above, these prove the good systems are important to avoid fraud that cause loses to various parties.

## **Literature Review**

### ***Fraud***

According to Albrecht (2003) fraud is a fraudulent acts or an illegal act that violates the law which is done by purpose and in nature it may be cause lose to the others. Other terms are cheating, such as thievery, annexation, extortion, plagiarism, embezzlement, etc. Fraud, in narrow perspective, is a crime or act of corruption. Fraud is an act that violates the law that comes from internal or external members of organization that has a purpose to gain personal or group profit and directly cause loses to other parties.

There are three factors that encourage a person to do fraud that is called as fraud triangle according to Cressey (1951) in Albrecht (2003):

- a. Pressure
- b. Opportunity
- c. Rationalization

### ***Payment System***

Payment systems is a system that includes regulation, contract/agreement, operational facilities, and technique mechanism that are applied for report, validation, and acceptance of payment instruction, as well as the compliance of payment obligations through the exchange of values between individuals, banks, and other institutions, both domestic and international (Ascarya and Subari; 2003).

In according to definitions above, the components of adequate payment system is required, such as (Ascarya and Subari; 2003):

- a. Policy
- b. Law (Regulation)
- c. Institutional
- d. Payment instrument
- e. Operational mechanism
- f. Infrastructure

### ***Ordering System***

Ordering system is a buying process that is conducted by consumers to the seller before the consumers receive the goods (Reza Milady; 2008). Therefore, an advanced ordering system will be very helpful in a transaction process, an activity between company and consumers, and also lead the company towards a better state, as well as achieve consumers' satisfaction.

Here is the ordering system in the internet that can be achieved by profit visibility (Ellsworth; 2013):

- a. Product
- b. Price
- c. Place
- d. Promotion

### ***Shipping System***

Shipping system is an activity to deliver goods due to the sale of merchandise. The sale consists of goods or service sale transactions, whether by cash or credit

(Mulyadi, 2001). The shipping also have Key Performance Indicator (KPI) in the shipping according to Donald and David (2010), they are:

- a. Speed
- b. Accuracy
- c. Volume
- d. Condition

### **Hypothesis Development**

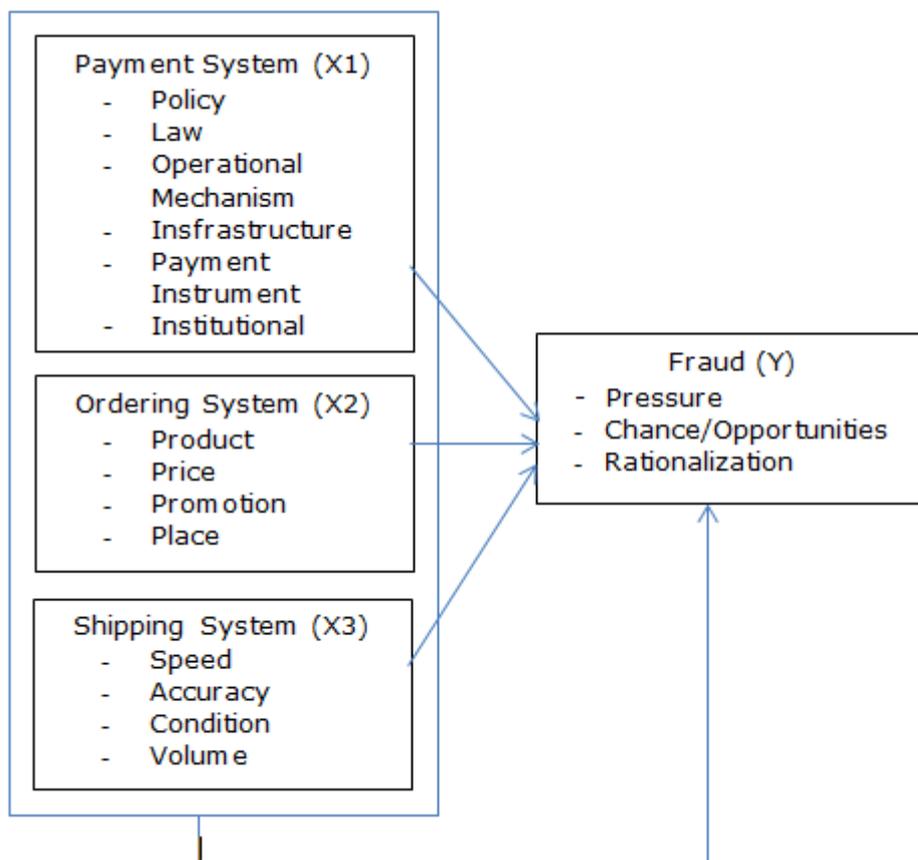
H1: The payment system has effect toward e-commerce fraud.

H2: The ordering system has effect toward e-commerce fraud.

H3: The shipping system has effect toward e-commerce fraud.

H4: The ordering system and shipping system have effect toward e-commerce fraud.

From the hypotheses formulated above, the research framework can be described as follows:



**Figure 1.** The framework of the influence of payment systems, ordering systems, shipping systems towards e-commerce fraud.

### **Research Method**

The model and design of this study are to obtain data about the variables affecting payment system, ordering system, and shipping system towards e-commerce fraud. This study uses quantitative descriptive type of research which uses treatment in the form of questionnaire data scenario. The source of data used in this study is subjective data which are opinion, attitude, experience or characteristic from an individual or group. The subject (respondent) of the study is human being.

Meanwhile, the type of data of this study is primary data which is directly obtained from the source.

Source of data used in this study is primary data, which is directly taken from the source or respondents through questionnaire. The questionnaire is made in one model, closed-ended questions. Closed-ended questions ask respondents to choose one answer out of 5 (five) alternative answers of Likert's Summated Ratings (LSR). According to Sugiyono (2010), the population is a generalized region which consists of object and subject that have certain qualities and characteristics set by the researcher to be examined and drawn a conclusion afterward.

The population which is going to be used in this study is the residents of Sawah Baru Ciputat Village, South Tangerang. Sawah Baru Ciputat Village is inhabited by 23,895 people. The samples to be used in this study are 99.58 respondents. Nevertheless, the number of samples is set into 100 respondents (rounding) in order to facilitate the research.

There are two variables used in this study:

1. Independent Variable

Independent variables used in this study are payment system, ordering system, and shipping system.

2. Dependent Variable

Dependent variable used in this study is e-commerce fraud.

The data of the study will be analyzed by using SPSS version 23 analysis tool which consists of: descriptive statistics, data quality test (reliability and validity test), classic assumption test, coefficient of determination test and hypothesis test with multiple regression equation as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

## **Results and Discussion**

### ***Respondent and Variable Descriptions***

The number of respondents in this study is 100 which comprised the results of the number of respondents by sex. The majority of respondents are female which are 62 respondents (62%), while men as many as 38 respondents (38%).

The number of respondents result based on the age level are that age between 18 years to 25 years are 61 respondents (61%), age between 26 years to 35 years are 28 respondents (28%), while the respondents that more than 35 years are 11 respondents (11%). The result of the respondents number based on occupation are that 38 respondents (38%) are students, 16 respondents (16%) are working student, and 46 respondents (46%) are working adults.

### ***Data Quality Test***

Data quality test includes reliability and validity test by using SPSS Ver. 23. The value of alpha cronbach in the variables of payment system (X1), ordering system (X2), and shipping system (X3) and e-commerce fraud (Y) exceed 0.6 which ranges from 0.867 to 0.971.

### ***Classic Assumption Test***

Classic assumption test conducted in this study is normality test by using graphic analysis (Normal Probability Plot), histogram, and kolmogorove smirnov test toward dependent variable which is entirely normally distributed due to significance exceeds 0.10. The multi collinearity test toward the independent variable of tolerance value shows that there is no independent variable having tolerance less than 0.10 (VIF below 10), hence, it can be concluded that all the concepts of variable do not

contain multi collinearity. Meanwhile, the result of heteroscedasticity test by using spearman's rho test indicates that significance probability value is above the trust level i.e. 10% or correlation significance value is greater than 0.10. It can be concluded that regression model used do not contain heteroscedasticity. The result of heteroscedasticity test by using graphic analysis Scatterplot identifies that there is no clear pattern, and the dots randomly spread both above and below 0 in Y axis. It can be conclude that heteroscedasticity does not happen in the regression model; hence, this model is eligible to be used.

### ***Coefficient of Determination Test***

Based on table 18 in the attachment, it can be identified that Adjusted R Square value from the result of data analysis is 97.6% or (0.976). It shows that the independent variable has 97.6% influences toward the dependent variable and the rest is affected by other factors which are not examined i.e. 2.4% or (0.24).

### ***Hypothesis Discussion***

#### *The Influence of Payment System toward E-commerce Fraud*

Based on the results of this study, it is proved that the online shopping payment system positively and significantly influences the e-commerce fraud, as well as on each indicator of payment system measured by policy, legal, institutional, operational mechanism and payment instrument, as well as infrastructure. Although the availability of the payment system provides easy transaction for the actors and recipients as well as the existence of an adequate system of payment components, there is a need for trust between the transaction actors. In online trading, the transaction actor does not meet physically and the product sold cannot be seen and touched directly, nor does the consumer know whether the seller in the e-commerce is the one who really owns his merchandise, as well as the trader is not always convinced that payment will be made to the seller's account. As a result, fraudulent acts can occur in the sale of e-commerce products.

The analysis results on the variable of payment system measured by the policy against e-commerce fraud indicate that each e-commerce have various policies. It is because each e-commerce has the characteristics, products and needs of different payment system in the policy. It shows that every policy must have a good rule to reduce the occurrence of fraud.

The analysis results on the variable of payment system measured by legal indicators against e-commerce fraud show that the laws legality imposed in regulating the payment system must have a clear rule in conducting transactions in the payment system and also the laws in its payment system must be protected by applicable law and regulations. It shows that a clear, good and appropriate law in conducting payment transactions will minimize the occurrence of fraud.

The analysis results on the variable of payment system measured by institutional indicators of e-commerce fraud indicate that the institutions in the transaction must comply with the rules set by each e-commerce and the actors must trust each other and cooperate. It can reduce the occurrence of fraudulent act if they can work together.

The analysis results on the variable of payment system measured by indicators of operational mechanisms and instruments of payment against e-commerce fraud show that the transaction actors will find it easier to make payment if operational mechanisms such as inter-bank system transactions and making payment transactions through minimarket outlets are provided. It can reduce the occurrence of fraud if the mechanisms and instruments are set by the rules stipulated by each e-commerce.

The analysis results on the variable of payment system measured by infrastructure indicators against e-commerce fraud show that accurate information on the security of all applications and facilities, the speed in the exchange of payment information of all applications and facilities and the amount of time users need to make payments are available. If good infrastructures are available and there is no interference from unauthorized individual, the fraud occurrence e-commerce can be reduced. Every component of the payment system has an important role. If one of them does not work well, the user's trust can be reduced. Furthermore, it affects the presence or absence of fraud committed by e-commerce companies.

The results of this study are in line with previous study conducted by Mulyasari, Dan, and Wijaya (2014) which discussed the analysis of electronic payment systems in e-commerce transactions in Indonesia. The study suggests that the ease of payment system use achieves high value, which indicates that e-commerce in Indonesia already has a good payment system.

#### *The Influence of Ordering system toward E-commerce Fraud*

The results of this study prove that the online shopping order system positively and significantly influences the e-commerce fraud. In addition, each indicator of the ordering system measured by product, price, place (website view) and promotion, e-commerce companies provides a different ordering system. The payment system is in the conventional way where the buyer must fill out the form of procurement of goods and submit directly to the e-commerce. Then, the payment system with electronic media has provided simplicity in running applications offered by the e-commerce.

The analysis results on the variable of ordering system measured by product indicators against e-commerce fraud show that negligence can still occur with the process executed such as availability of the ordered products and the quality which is not in accordance with the ones listed on the website. It shows that fraud will occur if the rules are not obeyed.

The analysis results on the variable of ordering system measured by price indicators against e-commerce fraud indicate problems in the accuracy of the price, whether it has been in accordance with the ordered product, and product price competition against other manufacturers. This may indicate that the reduction of fraud occurrence should be indicated by the adjusted price.

The analysis results on the variable of ordering system measured by the site indicator (website view) of e-commerce fraud show that the website has trusted appearance, no errors, and display products. It shows that it will minimize e-commerce fraud occurrence.

The analysis results on the variable of ordering system measured by promotional indicators of e-commerce cheating show that there are promotion of products offered and frequent discounts providing in order to make consumers happy to shop back and motivate consumers in shopping. It shows that the reduction of fraud occurrence is in accordance with established rules and without the interference of others. Therefore, users must also ensure various information needed in booking goods in advance.

The results of this study are in line with previous study conducted by Mulia (2011) which discusses the application of goods ordering system in UD. Sriwijaya Ponorogo. The study argued that ordering system can help companies as a broader media

campaign, simplify and help to increase sales figures as well as help customers to obtain quick, precise, and accurate information.

#### *The Influence of Shipping System toward E-commerce Fraud*

The results of this study prove that the shipping system influences positively and significantly to e-commerce fraud, as well as influences each indicator of the shipping system measured by speed, accuracy, volume and condition. E-commerce parties generally offer various facilities in the shipment of goods such as JNE, TIKI, POS, and Cash on Delivery service. The system can simplify the users to track the goods being ordered.

The analysis results on the variable of shipping system measured by speed indicator to e-commerce fraud show that the speed of processing orders to consumers is done through a 3rd party and the consumers themselves determine which courier to send their order. This can reduce the fraud committed on e-commerce if the consumers are on time and choosing a trusted courier.

The analysis result on the variable of shipping system measured by the accuracy indicator of the e-commerce fraud show that the goods ordered by consumers must be in accordance with the information given. This will reduce the occurrence of fraud if the information is accurately and precisely provided.

The analysis results on the variable of shipping system measured by the volume indicator of e-commerce fraud show that the weight of the ordered goods from the calculation using the volume of goods is related to the capability of the 3rd party in providing the limit of the volume of goods to be delivered. This will reduce the occurrence of fraud in the goods shipping because it is in accordance with the ordered and there is no addition in the weight of the goods volume.

The analysis result on the variable of shipping system measured by the condition indicator of the e-commerce fraud show that the characteristics of goods informed to the consumer in measuring the quality of goods is in accordance with the ones displayed. This will minimize the occurrence of e-commerce fraud.

#### *The Influence of Payment, Booking, and Shipping Systems toward E-commerce Fraud*

The result of hypothesis testing, the influence of payment, booking, and shipping systems co-together have positive and significant influence to e-commerce fraud. Sixteen sub-variables of the three independent variables measured by policy, law, institutional, operational mechanisms & payment instruments, infrastructure, product, price, place (website view), promotion, speed, accuracy, volume and conditions can minimize the occurrence of fraudulent acts on e-commerce in the area of Sawah Baru, South Tangerang.

Therefore, concerning about the variables of e-commerce fraud, it can be generally concluded that the occurrence of e-commerce fraud can be minimized if the system runs effectively, has a high level of security, and has no interference from unauthorized parties.

### **Conclusions**

Referring to the results of the study described in the previous section, the conclusions that can be drawn are as follows:

- a. It partially proves that variable of payment system measured by policies, laws, institutions, operational mechanisms & payment instruments, and infrastructures. That variable of ordering system measured by product, price, place (website view), and promotion have positive effect to e-commerce fraud and that the

- variable of shipping system measured by the speed, accuracy, volume, conditions have a positive and significant towards on e-commerce fraud
- b. It simultaneously proves that all independent variables of payment system, booking and shipping systems have positive effect to e-commerce fraud.

### **Acknowledgements**

This research is supported by Universitas Teknologi Yogyakarta and Universitas Prof. Dr. Moestopo (Beragama), Indonesia. The authors would like to express gratitude to Emma Silmy Akmalia for finalizing this manuscript.

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