

# Understanding Cyber Crime Behavior on E-Commerce Application Users

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## ARTICLE INFO

### Article history:

Received: 26 November 2021; Received in revised form: 26 Desember 2021; Accepted: 15 March 2022;

Available online: 28 March 2022; Handling Editor: Mersy Elisabet Sumangkut

## ABSTRACT

E-Commerce technology is a business mechanism that works electronically by focusing on online business transactions and has the opportunity to build more human and personalized relationships with customers without depending on space and time. The purpose of this study was to determine to what extent, the influence of Cyber Crime behavior of users of e-commerce applications affects the level of trust of the users of E-Commerce transaction services. The data used in this study are primary data. The data analysis method used is quantified using a Likert scale. The population in this study was 30 respondents as the research sample, using the Google form. The results, based on the analysis showed that e-commerce users bear a lot of risks is added to the level of trust of E-Commerce users, making Cybercrime behavior is still very difficult to anticipate by users of E-Commerce transaction services, has a negative and significant effect. The results of this study conclude that the behavior of users in e-commerce is still low with the level of trust is not good and they are still worried about the risks of cybercrime they face.

**Keywords:** application users, behavior, cyber crime, e-Commerce, information technology

## INTRODUCTION

The progress and development of information technology today are one of the references in assessing the success or failure of a form of modern human behavior in almost all areas of life. With

regard to the progress and development of community needs, of course, it cannot be separated from the development of information technology through the internet network (Feng & Zhang, 2022). The use of the internet for business transaction activities is known as Electronic Commerce (E-Commerce). E-commerce can occur between business organizations and consumers, including the use of the Internet and the World Wide Web for selling products and services to consumers (Suyoto, Johan Reimon Batmetan, 2016). e-Commerce technology is a business mechanism that works electronically by focusing on online business transactions and has the opportunity to build a more human and personalized relationship with customers without depending on space and time (Juliet Orji et al., 2022). E-Commerce is more specific than E-Business and is considered to be the very last thing. E-Business Mobile Commerce Theory (Chhonker et al., 2017). e-Commerce technology is a business mechanism that works electronically by focusing on online business transactions and has the opportunity to build more human and personalized relationships with customers without depending on space and time (Kawasaki et al., 2022). e-Commerce itself is related to transaction facilities, selling products and services online via the internet or other telecommunication networks. E-commerce is electronic commerce that displays the goods or services it sells digitally. e-Commerce includes all trade steps such as online marketing, online ordering, online payments, digital goods and services and online distribution (Griva, 2022).

The main problem faced by users is the low level of trust in e-commerce applications. This is a drawback because the entire commerce process occurs virtually without directly meeting the buyers and sellers. Transactions that occur virtually can cause cybercrime risks (Yuwen et al., 2022). This can cause the buyer to lose money and the emergence of other fraudulent actions. Therefore, it is very important to carry out an analysis to ensure that the risk does not occur. One method that can be used is to do game theory to take into account the parts that must be anticipated in order to provide trusted e-commerce application technology (Nana et al., 2022). Another thing to think about is how to do online marketing to ensure products can be purchased by consumers (Tolstoy et al., 2022). One solution that is being tried is to provide live e-commerce that allows buyers and sellers to live in a system that allows transactions to occur (Zhou et al., 2021). This becomes very important, especially in developing countries such as Indonesia. User perception in adopting e-commerce is very important to see the behavior of their e-commerce users (Ariansyah et al., 2021). Provision of information technology infrastructure is very important to encourage good and consistent use of e-commerce and user behavior. It is very important to analyze the behavior of e-commerce users in carrying out various commerce activities.

This study aims to determine the behavior of cybercrime against users of E-Commerce applications. This is very important to help improve the strategy and development of e-commerce applications and technologies in the future. This research is faced with formulating user behavior, especially those related to cybercrime that can affect the level of e-commerce adoption. This study uses

a Use Questionnaire which has several aspects according to efficiency, effectiveness, and satisfaction. This questionnaire was made in the form of a five-point score using a Likert scale model.

## METHOD

### *Population and Sampling*

Research that has certain standards, in accordance with research objectives, Respondents involved in this study were 30 respondents, from a population namely, teachers, civil servants, employees, and students.

### *Data collection technique*

Primary data: obtained by distributing questionnaires through google forms to obtain data, and in this study using a Likert scale. The Likert scale is a psychometric scale that is commonly used in questionnaires and is the most widely used scale survey research. When responding to questions on a Likert scale, respondents determine their level of agreement with a statement by selecting one of the available options. 5 (five) options are provided in a format such as: 1 = Strongly Disagree, 2 = Disagree, 3 = Doubtful - Doubtful, 4 = Agree, 5 = Strongly Agree. See table 1.

**Table 1.** Value Weight

PK	STS	TS	RR	S	SS
	1	2	3	4	5

To get data that are ordinal and given a score. The score can be explained as follows: PK: Question; STS: Strongly Disagree; TS: Disagree; RR: Doubt – Doubt; S: Agree; SS: Totally Agree.

In this study, the initial step taken was to identify the problem, then an initial study/library study was carried out related to the Effect of Cybercrime on E-Commerce application users.

## RESULT AND DISCUSSION

In this study, researchers distributed questionnaires to teachers, ASN, employees, and students containing 11 questions that represented the assessment aspect using google form media. Users fill out questionnaires that have been distributed based on their experiences when using E-Commerce transactions. Each question from the questionnaire aims to determine the effect of cybercrime on E-Commerce applications, which will then be assessed using a Likert scale. From the questionnaires that have been given to the respondents, the data were analyzed using the Likert-scale model.

Index formula  $\% = \text{Total Score} / Y \times 100\%$  (1)

Where:

Y = Highest score Likert x number of respondents (Highest Number 5) "Pay attention to the weight of scores"

X = lowest score Likert x number of respondents (lowest number 1) "Pay attention to the weight of scores"

The results of the analysis are divided into scores and divided presentation categories, the results of which can be recapitulated and analyzed. See table 2.

**Table 2.** Percentage Value

Answers	Description
0% - 19,99%	Strongly Disagree
20% - 39,99%	Do not agree
40% - 59,99%	Doubtful
60% - 79,99%	Agree
80% - 100%	Strongly agree

The highest score for the STRONGLY AGREE item is  $5 \times 30 = 150$ , while the STRONGLY DISAGREE item is  $1 \times 30 = 30$ . So, if the respondent's total score is 150, then the assessment of the respondent's interpretation of the Android operating system is the result of the highest score. Generated using the Index % formula. After distributing the questionnaires to 30 respondents, then a recapitulation of the results of the questionnaires was carried out. See table 3.

**Table 3.** Value Recapitulation

No	Statement	Percentage	Description
1.	Doing E-Commerce Transactions	78 %	
2.	E-Commerce facilitates communication between producers and consumers	76,6 %	
3.	E-Commerce makes it easy to promote goods and services	81,3 %	
4.	E-Commerce process is easier to do to sell or buy goods	81,3 %	
5.	E-Commerce process is easier to make payments	74,6 %	

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6.	Safe E-Commerce Transactions To make payments	64 %
7.	Frequent Online Fraud / Fraud	80 %
8.	When purchasing and transferring money, but the item doesn't match / the item doesn't arrive	66,6 %
9.	The occurrence of crimes such as carding or someone using someone else's credit card to make online transactions	65,3 %
10.	Crimes occur such as spreading a virus to an E-Commerce system or application	71,3 %
11.	Law on Information Technology	88,8 %

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The table above shows the value of each item asked questions. It can be seen that for the convenience of conducting E-Commerce transactions, having a percentage value of 78% means that E-Commerce can be easily carried out. Adjusted to the table, the data says that the influence of Cybercrime on users of E-Commerce applications, this is indicated by various factors:

Percentage Value "When Purchasing and Money Transfers, but the goods do not match / goods do not arrive, 66.6%, Indicates that the Financial Risk is very large, namely the possibility of financial loss and Time Risk, namely the possibility of feeling time loss due to the online purchase process, as well as Risk Performance, which is the possibility of a product or service not being as expected. Online Fraud / Fraud often occurs 80%, indicating that Cyber Crime greatly affects users, and "Crimes occur, such as spreading viruses to the system or E-Commerce Applications" 71.3%, causing losses to the system.

Percentage value The E-Commerce process is easier to make payments" 74.6% and the E-Commerce process is easier to do to sell or buy goods" 81.3%, indicating that Physical Risk, namely the possibility of physical loss is still less. Percentage Value E-Commerce facilitates communication between producers and consumers 76.6% indicates Psychological Risk, namely the possibility of feeling psychologically comfortable, feeling comfortable because meeting sellers, being closer to various communication facilities. Percentage Value the occurrence of crimes such as carding or someone using someone else's credit card to conduct online transactions 65.3%, indicating that the Privacy, Security Factor, namely the possibility of loss due to misuse of personal information by someone who is not responsible, and Act on Information Technology 88.8% which indicates that every user needs clear and firm legal protection to follow up crimes in E-Commerce transactions.

These findings indicate that users have realized that e-commerce is easy for transactions, promotions, and e-commerce activities, but there are still many users who state that e-commerce is still very vulnerable to cybercrime actions such as fraud and fraud. In addition, the spread of viruses and

the crime of credit card theft (carding) is still a concern in the use of e-commerce. This should encourage e-commerce application providers to think of the right strategy so that cybercrime does not occur. The solution can implement safer technology, a more strict and flexible business model, especially in identifying the right buyer and being able to distinguish users who are not the original owner. One way is to implement simple processes, including logistics systems (Kang & Pang, 2022). Improvements need to be made to improve the quality of e-commerce services offered to consumers (Niu et al., 2022). A very important factor to consider in e-commerce is trust (Fernández-Bonilla et al., 2022). This is very important to provide e-commerce services that can be trusted and can be adopted by massive users.

## CONCLUSION

This study concludes that the behavior of e-commerce users is good in implementing e-commerce, but there is still a high level of concern about cybercrime actions. Cybercrime in question is in the form of online fraud, being infected with malicious malware applications, fraud, and credit card theft which can cause huge losses. The E-Commerce transaction system used by users and buyers to get the desired goods must bear a lot of risk plus the level of trust of E-Commerce users, making Cybercrime behavior still very difficult to anticipate by users of E-Commerce transaction services. The obstacles faced in the implementation of e-commerce are the lack of human resources who understand the use of e-commerce so that it cannot be used optimally, and there are still many buyers who still do not believe in the level of security of online shopping / E-Commerce and find it difficult to change habits to buy e-commerce transact online.

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