

Original Article

The Effect of Perceived Risk on Consumer Trust in Online Shopping during COVID-19 Pandemic

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Abstract - Since the lockdown that was implemented by the government at the beginning of last year, public interest in online shopping has increased significantly. However, there are still many potential consumers who are still doubtful about online shopping, considering that this is a new territory that is not quite familiar yet in the public's eye. Trust is one of the important elements that sellers need to get from consumers, so the online businesses can operate properly. However, to gain consumer trust, there are some perceived risks that may prevent consumers from fully committing to online shopping. This study aims to determine the effect of perceived risk on consumer trust in online shopping. Three proxies are used to measure perceived risk, namely: perceived security, perceived privacy, and perceived physical risks. For this research, samples were collected through 140 respondents who actively use social media in Indonesia with a random sampling technique. Data were obtained from questionnaires distributed during February-March 2020. To analyze the data, regression analysis tests were used. Based on the research results, it is known that Perceived Risk has a significant effect on Trust.

Keywords - Perceived Risk, Perceived Security, Perceived Privacy, Perceived Physical Risk, Consumer Trust.

I. INTRODUCTION

One of the biggest changes that have occurred in the last decade is that it has become easier to interact with others through social media. The rapid growth of web-based platforms that facilitate social behaviour on the Internet has significantly changed the nature of the interaction of human activity and the environment. Real social relations have shifted to cyberspace, leading to the creation of online communities of people from all over the world. This move into the digital dimension allows people to share knowledge, entertain each other and promote dialogue between different cultures.

In recent periods, the presence of the Internet has had a major impact on people's way of life (Usak et al., 2019). The executive summary of the Internet Business Development Report of the United Nations (2002) reports that e-commerce

will help increase the effectiveness of trade and empower the economies of developing countries around the world to create a better economy by providing jobs (UNCTAD, 2002). Reporting to Tempo. Co, the number of e-commerce users in Indonesia continues to increase every year and is predicted to follow the same trend for the next few years. According to the Statista report on data about e-commerce users in Indonesia, e-commerce users in Indonesia are predicted to increase to 189.6 million users by 2024. Since 2017, there have been 70 8 million e-commerce users, and the number is increasing every year. In 2018, it reached 87.5 million e-commerce users in Indonesia. Meanwhile, in 2020, it reached 129.9 million e-commerce users. In 2021, it was predicted to reach 148.9 million users, while in 2022, it is predicted to reach 166.1 million users and 180.6 million users in the year 2023.

Online business or e-commerce is a new medium in doing business and digital marketing (Syazali et al., 2019). This has led to the emergence of a new shopping method known as online shopping, which then changes the shopping method that was previously done conventionally. Previously, people used to physically visit a store, touch the product they wanted to buy, ask for a discount from a retailer, and in this manner, they purchase the product. The new web-based shopping has transformed the conventional shopping method for clients into a simpler and more convenient method for picking up and paying for their goods. The companies are trying to stay updated on-trend due to the increasing competition between sellers. Therefore, the companies from the two previous decades have two methods of purchasing goods which are online and offline systems (Nazir & Haq, 2018).

Purchases can be made, or any services are made available whenever the customer wants them, regardless of geographic boundaries or without a physical presence. The Internet has developed the shopping experience to a level where customers can find the items they need and view product details virtually, and search the world's items while remaining in the comfort of their home. Due to the large target population, the Internet has great potential in terms of increasing the sales volume. The online marketing industry



uses platforms such as social media to increase the customer base by offering diverse products, unique data and information that sales representatives are unable to provide. Multiple people can view the same item at once, and they are also able to buy the same product at the same time. It reduces costs because there are no intermediaries such as buyers or sellers involved, and this reduces intermediary expenses is, making goods cheaper and easier to buy from this medium. Therefore, it is necessary for the e-commerce platform to study the pros and cons of the e-market, what makes consumers shop online and why some consumers are still hesitant to choose online shopping.

Since the introduction of the Internet, privacy and security in online business are considered the basic components needed to give and build buyer trust, and they are often referred to as the pioneers of online Trust. There is a common understanding that online trusts are assumed to have an important role in transactions, as they provide convenience for consumers to request services. In addition, sellers who have a good reputation in the online community are generally capable of communicating well and are better prepared to meet the needs and desires of buyers (Riquelme & Román, 2014). Therefore, the main risk or factor that appears in most people that makes them stop shopping online is the 'Trust' factor.

A. Problem Identification

Based on this background, the problems that can be formulated are as follows:

- [1] What are the main factors that make customers shop online?
- [2] What are the risks involved in shopping online?
- [3] Do these factors or risks have a significant effect on consumer trust in online shopping?

B. Research Purposes

As for the purpose of writing, the results of this study are:

- [1] To find out the main factors that make customers shop online.
- [2] To know the risks posed by online shopping
- [3] To find out these factors or risks have a significant effect on consumer trust in online shopping.

C. Research Benefits

This research is expected to provide a benefit that, of course, can be useful for all parties involved in this research activity, either as practitioners, academics, or marketing observers. The benefits of this research are as follows:

- [1] For Researchers

This research is expected to be used as a reference for researchers to apply the knowledge, insights, and abilities acquired during the lecture period in order to obtain a Master of Management (MM) degree.

- [2] For Companies

This research is expected to be used as a guide or recommendation for management practitioners who run their business in planning online marketing in the future.

- [3] For Academics

This research is expected to be used as reference material for developers of marketing management knowledge, especially in the topic of online shopping.

- [4] For the public, as a means of education about current trade trends, as a business and income opportunity.

II. LITERATURE REVIEW

A. Theoretical Basis

a) Perceived Risk

Although e-commerce has many advantages that are very helpful for potential consumers, its nature that does not meet directly between buyers and sellers has raised the perception of risk that is varied for each person. Those concerns include but are not limited to the risk of losing money, the delivery time factor, security factors, and also physical and privacy factors.

Liu Xiao (2004) describes some perceived risks that may exist in the minds of our potential customers that the seller may not have thought of.

- [1] Financial Risk
- [2] Social Risk
- [3] Time Risk
- [4] Performance Risk
- [5] Physical Risk
- [6] Psychological risk
- [7] Security Risk
- [8] Privacy Risk

Many parties agree that the biggest challenge for e-commerce in Indonesia, as well as other developing countries, is gaining the trust of consumers. When the talk about Trust is discussed, it cannot be separated from the talk of risk. Trust is needed because there are many risk factors involved. For this study, the authors use perceptions of security, physicality and privacy to see the impact on consumer's Trust.

b) Trust

According to Schurr and Ozane (1985), Trust is a general expectation that individuals have that the words from other parties can be relied upon. Trust is a very important thing for a commitment or promise because commitment is formed only if both parties have trust in each other. Morgan and Hunt (1994) conclude that Trust occurs when one party has confidence that the other party involved in the exchange will behave in accordance with the applicable agreement.

According to Karsono (2006), Trust exists if consumers believe that the service provider can be trusted and also has a high degree of integrity. Lau and Lee (1999) define Trust as a person's willingness to rely upon another party with certain risks.

c) Risk Aversion Theory

Risk implies future uncertainty about deviations from the expected results. Risk measures the uncertainty that an individual is willing to take to get the best outcome. Therefore, many individuals try to get profitable results by avoiding large risks or also known as risk aversion.

Risk aversion is also defined as the tendency of people to prefer outcomes with low uncertainty over outcomes with high uncertainty, even if the average outcome is equal to or higher than the more certain outcome (Jan Werner, 2008).

B. Concepts and Definitions

a) E-commerce

Internet technology has facilitated marketers to focus their business on electronic commerce. In various studies on online shopping, there are findings that reveal factors that influence the rapid development of online shopping, such as easy access to the websites, efficiency, security, rebates, product quality, previous client reviews (Sultan & Nasir, 2011; Bauboniené and Gintar, 2011). 2015).

E-commerce (Electronic Commerce) is defined as a transaction process carried out by buyers and sellers in buying and selling various products electronically from company to company using a computer as an intermediary for business transactions carried out (Loudon, 1998). In simple terms, e-commerce can be defined as the activity of buying and selling goods, services or transmitting funds or data using electronics connected to the Internet. This e-commerce transaction is no longer a new subject in the country; in fact, its development is rapid.

As it is known that the Internet has become entrenched in many communities around the world. The Internet is used to obtain information, communication and as a transaction tool. E-commerce is an electronic transaction that is carried out through the Internet. In the international market, e-commerce has become the main payment instrument for online businesses because of its convenience and efficiency, and it has no limitations in space and time. In general, it is expected that developed countries will implement e-commerce and paperless trading in 2005, while developing countries, including Indonesia, will start in 2010. Business people are expected to be able to develop e-commerce businesses amid existing obstacles so that they can be used as a basis to compete in the international market.

b) Perceived Risk in Online Shopping

Risk is described as the mix of probabilities of a particular event, with the effect that event would have if it happened by chance. Risk implies vulnerability or negative outcomes (Naovarar and Juntongjin 2015). In addition, risk has been characterized as the nature of the decision that reflects the difference in possible outcomes and incorporates all negative outcomes of the purchase for the shopper that cannot be predicted. It states that customer behaviour involves risk in the sense that each customer activity will create unpredictable results; also, some outcomes may be

undesirable. Risk plays a fundamental role in purchasing behaviour because consumers can make choices that involve risk, the outcome of which is undetermined and can create barriers for buyers (Maziriri and Chuchu, 2003).

In a study by Sultan and Nasir (2011), it is stated that the factors that influence web shopping are web architecture/highlights, shopping convenience, efficiency, security and privacy, value, price reductions, input from previous clients, the nature of the goods, and also risks that can be physically harmful. The same factor was also identified by Bauboniené and Gintaré in 2015.

1) Perceived Security

According to Eid (2011), the perception of security is defined as the consumer's perception of security in conducting e-commerce transactions. Perceived security is also defined as the subjective belief that consumers have that their personal information will not be seen, stored or manipulated by other parties during transit and storage, thereby consistently building their trust (Flavia'n and Guinal'u, 2006).

2) Perceived Privacy

Privacy is the ability of an individual or group of individuals to defend their personal lives and affairs from the public or to control the flow of information about themselves (Cheung and Lee, 2001). According to Flavia'n and Guinal'u, the integrity of an information system refers to the impossibility of the data being transmitted or stored will be modified by a third party without permission. Confidentiality involves data that can only be seen by authorized individuals. Authentication allows certain activities to be carried out only after identification, or there is a guarantee that the identity is only used for certain purposes, such as a website.

3) Perceived Physical Risk

According to Schiffman and Kanuk (2010), the physical risk is a risk that can harm oneself or others physically from a product/service. The physical risk referred to here is the risk of perceived to be physically harmful to consumers.

III. RESEARCH METHODS

A. Research Design

The causal research design was used as the design basis for this study. Causal design is a form of research aimed at obtaining evidence of a causal relationship between the independent and dependent variables. In this study, a causal research design is used to determine the impact of online shopping risk on consumer trust.

B. Data Collection

Primary data collection was carried out by distributing questionnaires directly to What-apps social media users. The semi-structured questionnaire consisted of closed, direct and

indirect questions. To measure the risk of online shopping, several questions related to security and privacy in online shopping were designed by the researcher. Because security and privacy levels are qualitative, responses to these qualitative questions are recorded on a five-point Likert scale ranging from strongly disagree to strongly agree in order to be used as quantitative data.

The study was conducted on the online shopping experience belonging to the age group of 20 years or older of *Whatsapp* application users. Respondents include students, businessmen, employees, civil servants/TNI, housewives and others. The developed questionnaire was given to respondents who were randomly selected using a random sampling technique. The predicted population was 15000, with a sample size of 150 respondents used in the survey yielding a response rate of 97%. The questionnaire contains an explanation of the respondent's profile, such as salary age, followed by reasons for liking and disliking online shopping, and the most common sources used by consumers to obtain information about products were also analyzed to further understand the respondent's profile.

C. Variables

In this study, security (x_1), consumer privacy (x_2) and physical (x_3) are used as proxies for measuring online shopping risk, which is independent variables in this study (Rungsisrisawat et al., 2019). Security (x_1) is measured through online payment system security ($x_{1.1}$), product/service guarantee ($x_{1.2}$) and confidence that online shopping platforms generally have sufficient security systems to protect customers from fraud or data theft by third parties($x_{1.3}$), while privacy (x_2) is measured by the level of consumer convenience in providing personal information online ($x_{2.1}$) as well as the protection of personal data by the e-commerce platform/seller ($x_{2.2}$) and the policies of the Online Shopping platform regarding this matter. - Matters related to customer privacy ($x_{2.3}$) and physical (x_3) are measured through conditions that affect the physical condition of the customer during the covid-19 pandemic ($x_{3.1}$) and the avoidance of customers from physical fatigue ($x_{3.2}$). The quantitative data of the three variables were obtained through a Likert scale described in the questionnaire. For the dependent variable, consumer trust (y) in online transactions is used as a proxy. Consumer trust is measured through products/services as expected (y_1), seller reputation (y_2), and seller honesty (y_3) (Reza, 2011).

D. Validity and Reliability Test

This test is a preliminary test that is useful for determining the validity of and the reliability of the data obtained, and each item of the questionnaire filled out by the respondent with the aim that the data can be used as a means of proving the hypothesis.

The data that has been obtained through the questionnaire is tested first through validity and reliability tests. The instrument in this study was conducted on internet

activists in Indonesia. As for testing the validity and reliability of the instrument, it was carried out using the SPSS version 25 program.

E. Data Analysis

Data were analyzed by frequency, such as age, gender, occupation, etc., to determine the profile and scope of the research object. The reasons for liking and disliking online shopping and the most common sources used by consumers to obtain product information were also analyzed to further understand the profiles of the respondents. To analyze the relationship between payment system security and consumer privacy protection, which is a proxy for the risk of online shopping on consumer trust, multiple regression analysis is used.

F. Classical Assumption Test

A classical assumption test is used to test whether the regression model can be used for research. The classical assumption test for this study consisted of normality test, multicollinearity test, and heteroscedasticity test.

IV. RESULT AND DISCUSSION

In this research, validity, reliability, and classical assumption test (normality, multicollinearity and heteroscedasticity tests) is conducted in order to test the feasibility of the regression model. Multiple linear regression analysis is also conducted as the hypothesis testing to determine the effect of the independent variable on the dependent variable. The test includes a test of the coefficient of determination as well as a partial test (t-test). The following are the results of the various testing that has been conducted.

A. Validity and Reliability Test

a) Validity Test

The validity test in this study can be done by looking at the KMO value or commonly called Kaiser Mayer Olkin and Communalities, each of which must meet the standard with a value of 0.5

Security (x_1)	$x_{1.1}$	0.710	0.657
	$x_{1.2}$	0.710	0.656
	$x_{1.3}$	0.645	0.748
Privacy (x_2)	$x_{2.1}$	0.685	0.722
	$x_{2.2}$	0.647	0.781
	$x_{2.3}$	0.761	0.648
Physical (x_3)	$x_{3.1}$	0.500	0.746
	$x_{3.2}$	0.500	0.746
Trust (y)	y_1	0.637	0.678
	y_2	0.748	0.540
	y_3	0.620	0.717

Based on the results, it can be concluded that the indicators in this study have met the criteria and are valid.

b) Reliability Test

The reliability test will be seen from the value of the coefficient of Cronbach's Alpha for all indicator variables using SPSS. Variables that have a value of Cronbach's Alpha > 0.6 are declared reliable.

Variable	Cronbach's Alpha	No of Items
x ₁	0.769	3
x ₂	0.801	3
x ₃	0.659	2
y	0.717	3

The table shows that the Cronbach Alpha value of all variables (x₁, x₂, x₃ and y) is greater than 0.6

B. Classical Assumption Test

a) Normality Test

Normality test using Kolmogorov Smirnov is used since the data uses more than 140 respondents. The basis for decision making on the normality test is as follows:

- [1] If the significance of the Kolmogorov-Smirnov Sig. > 0.05, then the data is normally distributed.
- [2] If the significance of the Kolmogorov-Smirnov Sig. < 0.05, then the data is not normally distributed.

One Sample <u>Kolmogorov-Smirnov</u>		
		Unstandardized Residual
N		140
Normal Parameter	mean	0.0000
	Std Deviation	76.022
Most Extreme Differences	Absolute	0.0580
	Positive	0.0580
	negative	-0.037
Test statistics		0.058
Asymp.sig.(2 tailed)c		0.200d
Monte Carlo sig. (2 tailed)d	Sig.	0.301
99% Confidence Interval	Lower	0.290
	Upper	0.313

Fig. 1 Normality Test

Based on the test result, the value of Kolmogorov-Smirnov with a significant value of 0.2 is greater than 0.05, then Ho is accepted, which means that the data comes from a normally distributed population.

b) Multicollinearity Test

Basis of decision for Test Mmulticollinearity can be done as follows:

- [1] Tolerance value < 0.10 or VIF > 10 : multicollinearity occurs.
- [2] Tolerance value > 0.10 or VIF < 10 : there is no multicollinearity.

<u>Coefficienta</u>							
Model	UnStdz	Coef.	Std	t	Sig.	Collinearity	Statistics
1	B	Std. Err	Coef. B			Tolerance	VIF
(Constant)	2,080	.953		2.182	.031		
Security	.173	.073	.207	2,358	.020	.533	1.876
Privacy	.242	.077	.274	3.155	.002	.546	1,832
Physical	.358	.075	.3.32	4.762	< .001	.847	1.180

a. Dependent Variable: Trust

Fig 2. Multicollinearity Test

Based on the test result, all Tolerance values (Security 0.533, Privacy 0.546 dan Physical 0.847) > 0.1 all VIF values (Security 1876, Privacy 1832 dan Physical 1.180) < 10 then the model does not experience symptoms of Multicollinearity.

c) Heteroscedasticity Test

The heteroscedasticity test in this study uses the Breusch-Pagan/ Cook-Wiesberg test, which will determine the chi-square distribution of each variable. If the value of probability P-value < 0.05, then there is a heteroscedasticity problem in the regression model.

<u>Breusch-Pagan/ Cook Weisberg test</u>	
Ho: Constant variance	
Variable: fitted values of y	
Chi2 (1)	0.26
Prob > chi2	0.6099

Fig 3. Heteroscedasticity Test

Based on test result, the value of Prob > chi2 (P-value = 0.6099) > 0.05 then the model does not experience symptoms of heteroscedasticity.

C. Hypothesis Testing Summary

Hypothesis testing in this study uses multiple linear regression analysis to determine the effect of the independent variable on the dependent variable. The table below shows the summary of the tests.

	Hypothesis	Score	Information
H1.	Perception of Security has a significant effect on Consumer Trust	R = 0.709 P = 0.052 P < 0.1	be accepted
H2.	Privacy Perceptions have a significant effect on Consumer Trust	R = 0.709 P = 0.002 P < 0.05	be accepted
H3.	Physical Perception has a significant effect on Consumer Trust	R = 0.709 P < 0.001 P < 0.05	be accepted

Fig. 4 Hypothesis Testing Summary

D. Discussion

The results showed that perceived risk of privacy has a significant impact in influencing consumer trust. This is in line with the findings of Rungtornkiet and colleagues (2019) that when consumers have a sense of security in the storage of their personal information, they will also feel safe shopping online because they conclude that the security and privacy protection measures are taken seriously by the e-commerce platform provider.

This study also shows that the perception of security risk also has a significant impact on consumer confidence. These results show similarities with research conducted by Bojang and Spassov (2017), which found that perceptions of privacy and security risks have a major impact on consumer trust. It was explained that online retailers need to develop strong security solutions and strong firewalls to protect consumers' personal information from the threat of cyber fraud. It also implies that online sellers should create websites that model simplicity and are equipped with strong security and well-designed mechanisms so that consumer trusts and online transactions increase.

Another study conducted by Andrew and Subraniam (2016) also has the same findings as this study where perceptions of privacy and security risks affect consumer trust. The results of this study argue that perceptions of privacy and risk contribute positively to the level of consumer trust in an online brand.

This study also finds that perceived physical risk is the main driver of people using social media in economic and trade activities with a significant influence, and this is in line with the claim Liu Xiao (2004).

At the moment, perceived physical risk has become a strong driver for the community, especially Whatsapp and social media users, in channelling their economic and trading activities online. As stated by Schiffman and Kanuk (2010), the physical risk is a risk that can harm oneself physically, in this study it was found that this risk has made a significant contribution, which means the greater the physical risk that consumers can accept by shopping offline, the more consumers tend to shop online. Furthermore, it was found that the perceived physical risk had a stronger impact

than the perceived privacy risk and perceived security risk. This is presumably considering the current conditions in the world (including Indonesia) where travelling and making contact with others during the Covid-19 pandemic can be very risky to our health.

The findings of this study are also consistent with the theory of 'Risk Aversion' proposed by K.J Arrow and J.W Pratt, respectively, which states that "Risk-Averse Investors are investors who prefer lower returns with known risk rather than higher returns with unknown risk. In other words, among various investments that provide the same return with different levels of risk, these investors always choose the alternative with the lowest interest". In this study, it was found that consumers/investors avoid major risks that are physically harmful (due to Covid-19) by diverting their shopping activities/transactions online.

V. CONCLUSION

Based on the results of the calculation and test data, the analysis that can be concluded from this research is that Perception of Physical Risk has a stronger impact than Perception of Privacy Risk and Perception of Security Risk, while Perception of Privacy Risk has a stronger impact than Perception of Security Risk, this can be seen from the significance value The smallest Perception of Physical Risk.

In a previous study, analysts have also found that both security and privacy have a critical and positive impact on online Trust. More often than not, the security impact is stronger than the privacy effect (Riquelme and Román, 2014).

It can also be concluded that the risk aversion theory plays a role in customers' decisions regarding online shopping since the respondents in this study prefer the option that offers lower risks.

A. Research Limitation

In conducting the test, the researcher has several limitations as follows:

1. The short time of the research has caused very few respondents (140 respondents), it has come to the author's attention that there is a possibility that the data are not adequately represented as the object of this research and can interfere with the test scores for the attitude of respondents who are less serious in providing answers.
2. The possibility of other factors that have more influence on the dependent variable but are not examined in this research.

B. Suggestion

Based on the results of data testing and conclusions, the researchers submit the following suggestions:

- [1] The results of this study need further research by adding more variables in order to obtain larger data in order to overcome unreliable data due to the culture of the people who do not respond seriously in interacting with the questionnaires.

[2] Based on the respondents' answers, there are indicators that do not get a percentage or get a small percentage. This opens up opportunities for further researchers to improve data acquisition better.

[3] The main source of respondents getting information is through the Internet or social media; therefore, businesses need to focus more on their social websites to get more customer trajectories, but the dangers associated with overuse of social media and information dissemination need to be considered.

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