The Influence of Consumer's Perceived Risk on Consumer's Online Purchase Intention in Indonesia

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ABSTRACT
This study aimed to determine the influence of consumer's perceived risk on online purchase intention in Indonesia. In this study, the data was collected using a questionnaire to 130 respondents who shopped online in the last three months in Indonesia. The results of this study indicate that financial risk, product risk, security risk, time risk, and psychological risk have a negative effect on online purchase intention, while social risk does not influence online purchase intention. The implication of this study is that e-commerce companies or online shopping sites should pay attention to these five variables perceived risks such as financial risk, security risk, product risk, psychological risk, as well as time risk in order to increase online purchase intention.

***Keywords**: Perceived risk, online purchase intention*

1. INTRODUCTION

According to data from Internet World Stats (2021), the number of internet users in the world in the fourth quarter of 2020 has reached 5.098 billion, an increase of 169 million users when compared to the third quarter of 2020. In Indonesia, according to data from APJII (Association of Indonesian Internet Service Providers), the number of internet users in Indonesia in the second quarter of 2020 reached 196.7 million or 73.7% of the population. The increasing number of internet users is driven by the presence of fast internet infrastructure that is increase evenly distributed and the massive digital transformation due to the Covid-19 (Coronavirus Disease 2019) pandemic since March 2020.

The increasing number of internet users in Indonesia has made the internet a promising business platform. An online business can develop quickly and rapidly because it is easy to obtain and does not require large capital. Online business also makes it easier for sellers to find potential customers, reliable suppliers, not limited by time and place because they do not require in-person meetings. Easy internet access also provides benefits for consumers to shop for various product variants without leaving home [1].

The increasing number of online shoppers, this creates several new problems and challenges such as payment security, personal data protection, and product quality [2]. Consumers who shop online have a higher risk than shopping offline. The consumer's perceived risk in online shopping becomes a crucial issue at present days, because it can instantly affect consumer attitudes in online purchases and this attitude will significantly affect online shopping behavior [3].

Financial risk is the potential risk of perceived loss on the financial side, where consumers are afraid of losing some money when making payments in online shopping [4]. Financial risk is a strong predictor that affects online purchase intentions, information seeking and the frequency of purchasing activities [5]. Product risk is also an important dimension of perceived risk. Product risk is the most frequently used reason by consumers not to shop online. Product risk has a significant impact on the frequency of online purchases [6]. This is because in online shopping, consumers cannot check products and try products directly, such as shopping offline at stores.

Security risk is the perceived risk that consumers feel when the place of the transaction has low internet security, online fraud or hacking [7]. In addition, there are security risks that consumers feel about personal data such as shipping addresses and other personal information [5]. Time risk is the length of time consumers spend waiting for the product to arrive [5]. In addition, consumers can also feel the risk of time to learn how to make an online purchase and the time spent waiting for a response from the seller.

Social risk is an important element in perceived risk because it explains society's influence on consumer decisions. Social risk refers to perceived judgment of the purchased product and creates dissatisfaction among family, friends and community [8]. Psychological risk is a perceived risk such as loss of self-esteem due to frustration that the purchased product does not meet expectations [9]. Psychological risk relates to consumers' perceptions of how incorrect judgments after making a purchase lead to social risk, which refers to perceptions of how other people will react to their purchase.

2. LITERATURE AND HYPOTHESES

Financial risk is "the probability of an internet shopper suffering monetary loss from a purchase when the product does not perform well or if the product is not worth the price paid." [10] Financial risk can also be defined as "the probability of an internet shopper suffering monetary losses from purchasing that did not perform well or not commensurate with the price paid." [5]. Furthermore, financial risk can also be defined as "the monetary cost associated with the purchase price as well as the following maintenance cost." [9]. So, it can be concluded that financial risk is a monetary loss from the purchase because the product does not function properly or the product is not worth the price paid.

Financial risk is a significant predictor that affects consumers' online purchase intention, information seeking and frequency of purchasing activity [4]. Consumers tend to spend more when they browse sites that offer discounts and promotions. The existence of these discounts triggers the consumers to buy the products that they actually do not want to buy. The illusion of discounts has led consumers to overspend their money for unnecessary purposes [5]. Any form of financial loss felt by consumers can have a negative effect on consumers' online purchase intentions [4]. Based on this description, the following hypothesis can be formulated:

H_1: Financial risk has a negative effect on online purchase intention in Indonesia.

Product risk is "the perception that a product purchased may fail to function as originally expected." [11]. Product risk can also be defined as "the uncertainty and the consequences of a product not functioning at some expected level." [12]. Furthermore, product risk can be defined as "the possibility of product failure to meet the performance of what it was originally intended for." [13]. So, it can be concluded that product risk is a consequence of the product not functioning as expected.

Product risk can be interpreted as the failure of the product to meet its actual performance. In online shopping, consumers may not receive the product quality as advertised. Consumers may also be dissatisfied when the product ordered does not match what was informed. When consumers shop online, consumers also cannot try it directly [13]. The online purchase beliefs and intentions of consumers are very easily influenced by product risk. When orders and products that arrive do not match consumer expectations, consumers tend to consider the product not worth the price paid [14]. Product risk becomes the reason why many consumers do not intend to make purchases over the internet, as many as 25% of consumers are worried about product quality that may not meet their expectations [15]. Based on such explanation, the following hypothesis can be developed as follow:

H_2: Product risk has a negative effect on online purchase intention in Indonesia.

Security risk is "a potential loss due to online fraud or hacking, which exposes the security of an internet transaction or online user." [16]. Security risk can also be defined as "the potential loss of control over personal information" [10]. Furthermore, security risk can also be defined as "a possible disclosure of the buyer's personal information when making an online purchasing." [17]. So, it can be concluded that security risk is the potential loss of online fraud that causes the spread of buyer's personal information when making online purchases.

Security risk comprises a potential loss due to online fraud or hacking, that exposes the users' security who transact on the internet [16]. Security risk is one of the obstacles in online shopping [15]. Consumers are concerned that sites used for online shopping are unsafe and easy to hack. In addition, consumers are also afraid that their personal information will be leaked. Therefore, consumer's perceived risk perceptions increase when they perceive internet security is low [5]. Based on this description, the following hypothesis can be formulated:

H_3: Security risk has a negative effect on online purchase intention in Indonesia.

Time risk is "the perception that time, convenience, or effort may be wasted when a product purchased is repaired or replaced." [18]. Time risk can also be defined as "the time that consumers took to make a purchase, waiting time for the products to be delivered and the time that consumers had spent for browsing product information." [19]. Furthermore, time risk can also be defined as "the time lost because of product failure." [20].

The time it takes consumers to find information about products can reduce the level of online purchase intention [6]. Sometimes consumers may leave the site without buying anything because consumers cannot find the desired product [21]. Consumers also feel that online purchases may be just a waste of time, because they feel that there is no optimal search engine that is suitable for finding the desired product, so they spend a lot of time looking for sites that satisfy their wants and needs [22]. Based on this description, the following hypothesis can be formulated:

H_4: Time risk has a negative effect on online purchase intention in Indonesia.

Social risk is "perceived judgement on the product purchased that creates dissatisfaction among family, friends or communities." [8]. Social risk can also be defined as "the perception that a product purchased may result in disapproval by family or friends." [23]. Furthermore, social risk can be defined as "reflects the disappointment in the individual by friends and family in case of a poor store choice." [24].

Social risk serves as an important element in perceived risk, because it interprets the influence of society on consumer decisions. Social risk comprises the judgment of a purchased product that can create dissatisfaction among family, friends or the community [8]. Security risk can also be in the form of consumer fear, especially from family and

friends who do not approve of consumers' online purchases [21]. Social risks can prevent consumers from making purchases, especially when there is a potential disapproval from their friends or family who play an important role that can discourage them in making purchase decisions [25]. Based on this description, the following hypothesis can be formulated as follow:

H_5: Social risk has a negative effect on online purchase intention in Indonesia.

Psychological risk is "the possible loss of self-respect due to the frustration of not attaining a purchasing goal." [9]. Psychological risk can also be defined as "a consumer's dissatisfaction in choosing a poor product or service despite having a huge array of varieties." [24]. Furthermore, psychological risk can also be defined as "a consumer's disappointment in making a poor product or service selection." [26].

Psychological risk may mean the possible loss of self-esteem due to the frustration of not achieving the purchase goal [9]. Consumers are afraid that products purchased online will not arrive in good condition. For example, such as poor product packaging and causing the product to arrive in a damaged state. Then consumers will feel disappointed and frustrated regarding the product quality they purchase, that do not match to what has been advertised [5]. In order to increase consumers' purchase intentions, psychological risks must be significantly minimized [27]. Based on this description, the following hypothesis can be formulated:

H_6: Psychological risk has a negative effect on online purchase intention in Indonesia.

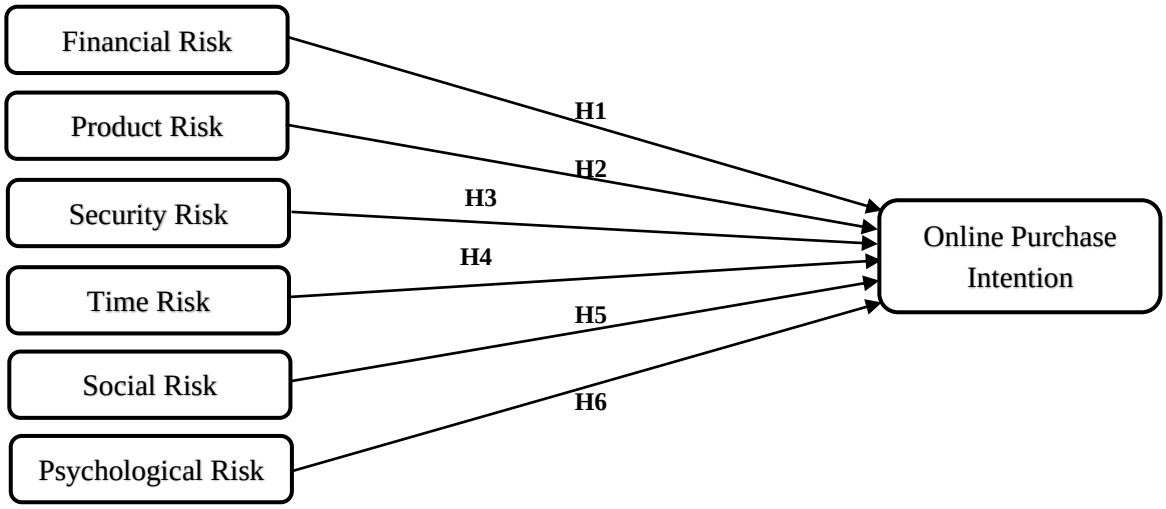

Figure 1 Research Model

3. METHODS

This study used a conclusive and quantitative research design whereas the data was acquired based on a representative sample. This study is considered a cross-sectional study. Indonesian people who shop online become the population in this study. Samples were taken by using the non-probability sampling technique with purposive sampling approach based on certain criteria, which are Indonesian people who shopped online in the last 3 months with a sample size of 130 respondents.

Among 130 respondents, the majority are male, as many as 81 people (62%), and based on age, the majority of respondents were aged 23-32 years, namely as many as 110 people (84%). The majority of the respondents 61 people (46%) had purchased 6-10 times per three months from the internet. Furthermore, the majority of respondents were spent IDR 1 million – IDR 1.9 million per months, namely as many as 50 people (38%), the majority of respondents 63 people (48%) bought household goods category. The majority of respondents spend 2-3 hours per day, namely as many as 40 people (30%), the majority of respondents 67 people (51%) used Tokopedia as an online shopping platform, the majority of respondents as many as 12 people were from DKI Jakarta.

Data was collected using a questionnaire with a score ranging between 1 and 5 in form of Likert Scale, in which score 1 means "Strongly Disagree" and score 5 means "Strongly Agree" to the statements contained in the questionnaire. Data was then analyzed using Panel Least Square – Structural Equation Modeling (PLS-SEM) with the SmartPLS version 3.3.2. First, data processing was performed on the outer-model to test its validity and reliability. The validity was measured by the value of outer-loadings that has to be higher than 0.7 [28] and by the Average Variance Extracted (AVE) that has to be higher than 0.5 [28].

Next, the value of cross-loadings was analyzed using the criteria for the value of outer-loadings generated by each indicator for its latent construct, that has to be greater than the value of the outer-loadings for each indicator against

other latent constructs [29]. Reliability analysis was measured by the value of Cronbach's Alpha and composite reliability, at least has to be greater than 0.6 in order to be claimed reliable [28].

Second, data processing was performed on the inner-model for testing the hypotheses that have been developed. Prior to hypotheses testing, the research construct was tested by observing the R-square (R^2) value. If the value is between 0.75 and 0.99, then the independent variable is considered as a substantial or strong predictor. If the value is between 0.50 and 0.74, the independent variable is considered as a moderate predictor. For the value (R^2) between 0.25 and 0.49, the independent variable is considered as a weak predictor [28].

If the value of Q^2 is greater than 0, this model has a strong influence. The value of Goodness of Fit (GoF), with the criteria 0.1 means "feasibility of small models", 0.25 means "feasibility of medium models", and 0.36 means "feasibility of large models" [30]. Moreover, the hypotheses tests were performed to reveal the relationship between variables, which can be seen from the generated path-coefficient (original sample) with t-statistics (greater than 1.645) and p-values (less than 0.05) in order to accept the hypothesis [28].

In this study, the variables and indicators are displayed in Table 1 as follow:

Table 1 Research Constructs

No.	Variable Name	Variable Operationalization	Code	Scale
1.	Financial Risk (X_1) [5]	I seem to overspend my money	FR_1	Interval
		I may get overcharged	FR_2	
		Product may not be worthy compared to the money I spent	FR_3	
		Shopping online can waste my money	FR_4	
		I do not trust online sellers	FR_5	
2.	Product Risk (X_2) [5]	I get difficult to seek the desired product	PR_1	Interval
		I may not receive the exact quality of a product I purchased	PR_2	
		The size description may not be accurate	PR_3	
		It is difficult for me to compare the quality of a similar product	PR_4	
		I cannot try online products	PR_5	
3.	Security Risk (X_3) [5]	I feel that my credit or debit card details are not secured	SR_1	Interval
		The website may be vulnerable	SR_2	
		The online-shopping company may disclose my personal information	SR_3	
		I may be contacted by other online-shopping companies	SR_4	
		The information about online-shopping company may not be enough	SR_5	
4.	Time Risk (X_4) [5]	Purchasing an online product can waste my time	TR_1	Interval
		I feel difficult to find the appropriate websites	TR_2	
		Finding the right product through online-shopping is difficult	TR_3	
		I feel impatient to wait for product arrival	TR_4	
5.	Social Risk (X_5) [5]	The purchased product may create disapproval by my family	SoR_1	Interval
		Online-shopping may affect the image of people around me	SoR_2	
		Online products may not be recognized by relatives or friends	SoR_3	
		Online-shopping may make others reduce my evaluation	SoR_4	
6.	Psychological Risk (X_6) [5]	I cannot trust the online sellers	PsR_1	Interval
		I fear that the product may not be delivered appropriately	PsR_2	
		I could be frustrated, if I feel dissatisfied with the product quality	PsR_3	
		I may get addicted to online-shopping	PsR_4	
7.	Online Purchase Intention (Y) [5]	I tend to buy online products	OPI_1	Interval
		I tend to recommend online-shopping to my relatives	OPI_2	
		I will repeat my online purchases, if the purchased product has proven to be beneficial	OPI_3	

4. RESULTS

130 data from 130 respondent of Indonesian people who shopped online in the past 3 months have been collected and then was processed to reveal about how each independent variable can influence the online-purchase intention. Previously, an analysis was need to be performed in order to ensure the data validity and reliability, of which the results are exhibited in Table 2 and Table 3 below.

Table 2 The Results of Validity Test

Indicator	Variable	Factor-Loading	AVE
FR_1	Financial Risk	0.875	0.839
FR_2		0.943	
FR_3		0.928	
FR_4		0.937	
FR_5		0.895	
PR_1	Product Risk	0.887	0.817
PR_2		0.932	
PR_3		0.916	
PR_4		0.928	
PR_5		0.853	
SR_1	Security Risk	0.913	0.912
SR_2		0.961	
SR_3		0.965	
SR_4		0.967	
SR_5		0.966	
TR_1	Time Risk	0.943	0.898
TR_2		0.955	
TR_3		0.943	
TR_4		0.950	
SoR_1	Social Risk	0.944	0.874
SoR_2		0.969	
SoR_3		0.914	
SoR_4		0.912	
PsR_1	Psychological Risk	0.941	0.902
PsR_2		0.962	
PsR_3		0.962	
PsR_4		0.934	
OPI_1	Online Purchase Intention	0.989	0.973
OPI_2		0.984	
OPI_3		0.987	

Source: The Results of Data Analysis using SmartPLS

Table 2 shows that the outer-loading value of each statement is greater than 0.5, and the Average Variance Extracted (AVE) value are also greater than 0.5. Thus, all statements and variables used in this study are considered valid. Next, the cross-loading values also pass the test, because the resulted value between the indicators against the latent variable itself is higher than the resulted value between the indicators against other latent variables.

Table 3 The Results of Reliability Test

Variable	Cronbach's Alpha	Composite Reliability
Financial Risk	0.952	0.963
Product Risk	0.944	0.957
Security Risk	0.976	0.981
Time Risk	0.962	0.972
Social Risk	0.952	0.965
Psychological Risk	0.964	0.974
Online Purchase Intention	0.986	0.991

Source: The Results of Data Analysis using SmartPLS

As the results of reliability test exhibited in Table 3, all Cronbach's Alpha and Composite Reliability values of all statement are higher than 0.6. Hence, the statements used in this study are considered reliable.

The R-square (R^2) value is 0.710 (moderate) in the online purchase intention variable. It means that 71% of variation in the online-purchase-intention variable is explained by the variations in financial risk, product risk, security risk, time risk, social risk and psychological risk variables. Meanwhile, the remaining 29% of variation in online-purchase-intention variable is explained by the variations of other independent variables not in the scope of this study. The q-square value resulted by this research construct is 0.668, meaning that the model has predictive relevance. Thus, this model is ideal to be a research construct. Meanwhile, the GoF value is 0.794, meaning that the suitability or feasibility level of this research model is strong. The results can be seen in Table 4.

Table 4 Hypothesis Testing Results

Hypothesis	Original Sample	t-statistics	p-values
Financial Risk→ Online Purchase Intention	-0.168	1.836	0.033
Product Risk→ Online Purchase Intention	-0.172	1.789	0.037
Security Risk → Online Purchase Intention	-0.285	2.093	0.018
Time Risk → Online Purchase Intention	-0.223	1.984	0.024
Social Risk → Online Purchase Intention	-0.035	0.303	0.381
Psychological Risk → Online Purchase Intention	-0.214	1.840	0.033

Source: The Results of Data Analysis using SmartPLS

5. DISCUSSION

The result of statistical-test reveals that the first hypothesis "Financial risk has a negative effect on online purchase intention in Indonesia" was supported by research data. This result is in line with [5] mentioning that financial risk has a negative and significant effect on online purchase intention. Any form of financial loss felt by consumers will have a negative effect on online purchase intentions [4]. Also, in line with [4] which indicated that financial risk is one of the risks perceived by consumers that has a negative influence on online purchase intention. Consumers tend to spend more and buy products they don't want to buy when they see online shopping sites that offer discounts and promotions. This discount illusion makes consumers overspend unnecessarily.

The result of statistical-test reveals that the second hypothesis "Product risk has a negative effect on online purchase intention in Indonesia" was also supported by research data. This result is in line with [5] mentioning that product risk has a significant and negative effect on online purchase intention. Also, in line with [14] which stated that product risk has a negative effect on online purchase intention. Consumers' online purchasing beliefs and intentions are very easily influenced by product risks. When the order does not match the product that arrives, the consumer will think that the product is not worth the price paid. Consumers may feel dissatisfied with products purchased online because they cannot see and try in person.

The result of statistical test also reveals that the third hypothesis "Security risk has a negative effect on online purchase intention in Indonesia" was supported by research data. This is in line with [5] which concluded that security risk has a negative and significant effect on online purchase intention. This is also in line with [15] which concluded that security risk has a negative effect on online purchase intention. Consumers tend to worry that the sites they use to shop online are unsafe and easy to hack, causing their personal information to be leaked. Consumers' perceived risk perceptions increase when they perceive internet security low.

The result of the statistical test has proven that the fourth hypothesis "Time risk has a negative effect on online purchase intention in Indonesia" was also evidenced by research data. This result is similar with [22] which proved that time risk has a negative effect on online purchase intention. Also, this result is similar with [5] which concluded that time risk has a significant and negative effect on online purchase intention. Consumers feel that online purchases can waste their time, because they feel that there is no optimum search engine to find the product they want. Time risk refers to the time it takes consumers to make a purchase, wait for the product to arrive and the time it takes to find information about the product. When the product that arrives does not meet consumer expectations and the consumer has to return the product to be replaced with a new one, it is also a time risk [3].

The result of statistical test also reveals that the fifth hypothesis “Social risk has a negative effect on online purchase intention in Indonesia” was not supported by research data. This is not in line with [25] which proved that social risk has a negative and significant effect on online purchase intention. On the other side, this result is similar with [4] which proved that social risk does not influence online purchase intention. Also, it is in line with [5] which stated that social risk does not influence online purchase intention. Consumers do not need the approval of family or relatives to buy products online because shopping online is a decision of the consumers themselves. Attitudes in online shopping also do not determine the characteristics of people around consumers because it is the norm for everyone to determine their own way of life. In addition, products purchased online also do not need to be known by family or relatives because a product is purchased based on the preferences and tastes of each individual. This will not reduce the value of consumers in front of others just because they buy products online.

Last, the result of the statistical-test states that the sixth hypothesis “Psychological risk has a negative effect on online purchase intention in Indonesia” was supported by research data. This conclusion is in line with [27] which revealed that psychological risk has a negative and significant effect on online purchase intention. Furthermore, this is also in line with [5] concluding that psychological risk has a negative effect on online purchase intention. Consumers are afraid that products purchased online are not delivered properly, such as poor product packaging because it can cause the product to arrive in a damaged condition. Consumers will also feel disappointed and frustrated with the product quality that has been purchased, if it does not match what is displayed online.

6. CONCLUSION AND LIMITATION

Financial risk, product risk, security risk, time risk, and psychological risk, each of which has a negative and significant effect on online purchase intention in Indonesia. While social risk does not influence online purchase intention in Indonesia. The implication is that e-commerce company or online shopping site should pay attention to these five variables perceived risk such as financial risk, product risk, security risk, time risk and psychological risk in order to increase online purchase intention. The limitation of this study is that this study covers almost all provinces in Indonesia, namely as many as 31 provinces, although the number of respondents per province is not proportional.

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