The Effect of Price, Information Quality, and Perceived Risk on Online Purchasing Decisions in E-Commerce

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Abstract

The enthusiasm of the Indonesian people to shop online is currently an interesting phenomenon, the many conveniences offered when transacting online are the main attraction for buyers, but it is not uncommon for buyers to be faced with risks that will be faced when making purchases online. Moreover, there were inconsistencies in the results of previous studies regarding online purchasing decisions so it became an interesting thing to re-investigate. This study aimed to find out the effect of Price, Information Quality, and Perceived Risk on Online Purchasing Decisions in E-Commerce. The research approach used in this research was a quantitative method, according to the explanation it was causal research. The sample used was female students of the Faculty of Teacher Training and Education (FKIP), which consisted of the Study Programs of Mathematics Education, English Education, and Elementary School Teacher Education, as well as the Faculty of Islamic Religion, which consisted of the Study Programs of Islamic Religious Education, Early Childhood Islamic Education, Muhammadiyah University of Gresik Class of 2018. The data sources used were primary data and secondary data, so the results of multiple linear analyses proved that price, information quality, and perceived risk influenced online purchasing decisions in E-Commerce. So the implication of this research is that pricing, developing information quality, and well-managed perceived risk can improve online purchasing decisions in E-Commerce so it is important for economic actors to pay special attention to price, information quality, and perceived risk.

Keywords: Price; Information; Perceived; Purchase; Trading

I. Introduction

Online shopping is a transaction that is in great demand or used by Indonesian people today. Because by shopping online, people can benefit, such as not having to go out, providing a variety of discounts and promotions, avoiding contracting the Covid-19 virus, it's easier, and for people with high mobility, shopping online to get the items they want is an interesting solution. E-Commerce is currently growing rapidly in Indonesia such as Shopee, Lazada, Tokopedia, Bukalapak, blibli.com, and many more. This online shopping phenomenon forces Indonesians to be selective in choosing the products offered by sellers on E-Commerce regarding size, product authenticity, rating, color, payment method, and everything related to the product because basically buying and selling online is between sellers and buyers never meet, don't know each other, also customers can't see the desired item directly.

Complaint cases against E-Commerce totaled 295 complaints, ranking second after the housing sector with the most consumer complaints from January to December 2020 received by the National Consumer Protection Agency (BPKN) (Databoks.co.id., 2020). Shopee is the most visited E-Commerce in Indonesia with 129.3 million visits, beating Tokopedia with 114.7 million visits, Bukalapak with 38.6 million visits, Lazada with 36.3 million visits, and many other E-Commerces under it. (Databoks.co.id., 2021).

Table 1 Inconsistency of Information Quality Variables and Perceived Risk Variables in Previous Research

No	Researcher Title and Name	Y variable	X variable								Research methods	Results
1	The Effect of Convenience, Trust, Quality of Information and Social Media on Online Purchasing	Purchase Decision	Convenience (X1)		Trust (X2)		Quality of Information (X3)		Social Media (X4)		Quantitative	Inconsistent
			√	+	√	+	x	-	x	-		

	Decisions at Shopee.co.Id (Rozieqy and Arifin 2018)											
2	The Effect of Information Quality and Perceived Risk on Purchase Decisions at Tokopedia (Dyatmika, 2018)	Purchase Decision	-		-		Quality of Information (X1)		Perceived Risk (X2)		Quantitative	Inconsistent
							√	+	√	-		
3	The Effect of Information Sources, Security, and Perceived Risk on Purchase Decisions on the Shopee Marketplace (Prasetyani and Wahyuningsih, 2019)	Purchase Decision	Quality of Information (X1)		Security (X2)		-		Perceived Risk (X3)		Quantitative	Inconsistent
			√	+	√	+			√	+		
4	The Effect of Perceived Risk, Convenience, Price, and Quality of Information on Purchasing Decisions Using Traveloka E-Commerce. (Laras and Bawono, 2021)	Purchase Decision	Perceived Risk (X1)		Convenience (X2)		Price (X3)		Quality of Information (X4)		Quantitative	Inconsistent
			x	-	√	+	√	+	√	+		

Source: Processed by researchers (2021)
Information:
- ✓ : Influenced   + : Positively
- ✗ : Not Influenced   - : Negatively

There have been many previous researchers who examined online purchasing decisions, however, in these studies, there were still inconsistencies in the results. Table 1 explains that there is an inconsistency in the results of the variable quality of information and perceived risk of purchasing decisions. Rozieqy and Arifin (2018) stated that the quality of information did not have a significant effect on online purchasing decisions. Dyatmika (2018) that the quality of information had a significant positive effect on online purchasing decisions. Prasetyani and Wahyuningsih (2019) stated that perceived risk had a significant positive effect on online purchasing decisions however, this was not in line with what was conveyed by Laras and Bawono (2021) perceived risk did not affect online purchasing decisions.

Researchers want to investigate whether online purchasing decisions are influenced by the quality of information and perceived risk. Researchers also added a price variable, because Kotler and Armstrong (2008:345) Price is the main factor influencing the choice of buyers. Nuriyah and Surianto (2022) Price is a value that is used as a benchmark for the value of an item/service or the value of goods said in money. The condition of people's fondness for online transactions continues to be pursued so that people feel satisfied and safe in conducting online transactions, to minimize the disappointment of parties.

II. Literature Review
Marketing
Sunyoto (2019:19) human activities that have the goal of satisfying customer needs and desires through an exchange process and parties with an interest in the company are marketing activities. Activities of sellers or companies in marketing include making plans, determining prices, promoting, and distributing goods and services. The marketing process according to Kotler and Armstrong (2008: 6) begins with understanding the market and customer needs and wants, designing strategies, building integrated marketing programs, building profitable relationships to create customer satisfaction, and capturing value from customers to create profits and equity in customers.

E-Commerce
Rerung (2018: 18) E-Commerce is an arena for transactions or exchange of information between sellers and buyers in cyberspace. Aligned as stated by Sutabri (2012: 108) E-Commerce is the distribution, purchase, sale, and marketing of goods and services through electronic systems such as the internet or tv, www, or other computer networks. There are various types of E-Commerce transactions: Business to business (B2B), Business to customer (B2C), Customer to customer (C2C), and Customer to Business (C2B).

Purchase Decision

Effendi (2016: 249) Purchasing decisions on consumer behavior are the main thing, consumers take action in connection with the consumption of the products and services needed. Before making a purchase decision, at least consumers carry out the process of searching for information on products and services, the process of identifying problems and analyzing possible solutions to problems, and choosing the best action to solve the problem. Therefore there are stages in Jusuf's purchase decision (2018: 37) the buyer understands the problem, seeks information, evaluates alternatives, purchases products, and evaluates after purchase.

Price

Sunyoto (2012: 131) Price is a nominal amount of sacrifice incurred by consumers to obtain several products and services. Jusuf (2018: 68) Price, Trust, and Compatibility are factors influencing consumer behavior when making purchases online. Shinta and Surianto (2022) Price is a value that is used as a benchmark for the value of an item/service or the value of goods said in money.

Information Quality

Soekotjo (2020) Information quality as a customer or consumer perceives information about products or services provided by a website is of good quality or not. Quality information must contain characteristics of content, form, and time that give value to users. Good quality information should meet 3 requirements, namely accurate, timely, and accurate. (Sutabri., 2012:41)

Perceived Risk

Perceived risk is a person's response to things that are less pleasant, detrimental, and dangerous from an action. Perceived risk is interpreted as the consumer's perception of uncertainty and the worrying consequences of an activity. Jusuf., 2018:49) This perception is a natural psychological process that occurs in a person when he is about to make a decision.

Hypothesis

H1: It is suspected that price influences online purchasing decisions in E-Commerce.
H2: It is suspected that the quality of information influences online purchasing decisions in E-Commerce.
H3: It is suspected that perceived risk influences online purchasing decisions in E-Commerce.

Framework of Thinking
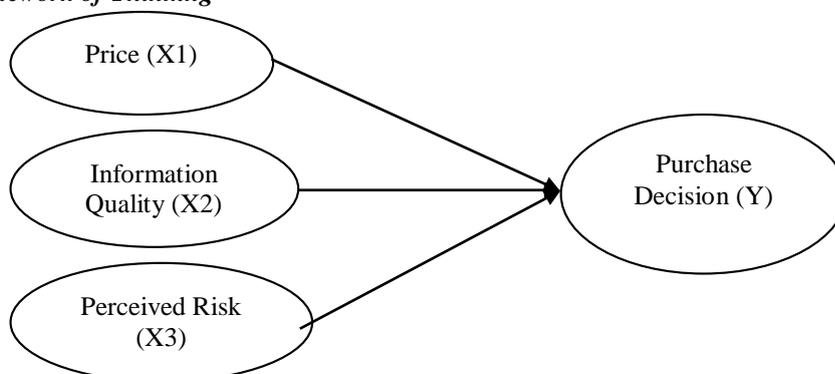
Information:

———————➤ : Partially

Figure 1 Framework of Thinking

III. Research Methodology

Research Approach

The research approach used in this study was a quantitative method to test the hypotheses that have been set (Sugiyono, 2019: 16).

Research Setting

The location of this research was conducted at the Muhammadiyah University of Gresik which is located at Sumatra Street Number 101, Randuagung, Gresik Sub-District, Gresik Regency, East Java 61121.

Population and Sample

The population in this study were female students who had made online purchases at E-Commerce in mathematics

education study programs, English language education, elementary teacher education, teacher training and education faculties (FKIP), Islamic religious education study programs, early childhood Islamic education, faculty of Islamic religion (PAI) the Muhammadiyah University of Gresik. Female students were chosen because Fitriani (2019) women have a greater tendency to make online purchasing decisions compared to men. The technique for taking the sample was non-probability sampling. The method for determining the number of samples used was the Krejcie and Morgan tables. Endra (2017: 105) Krejcie in calculating the sample was based on an error of 5% so the sample has 95% confidence in the population. So with a population of 174, a sample of 118 respondents was obtained.

Data Types and Sources
The data used were secondary data and primary data. Secondary data came from books, journals, and previous research articles, and primary data was obtained by researchers directly from respondents' answers regarding price (X1), quality of information (X2), perceived risk (X3), and online purchasing decisions (Y) submitted to respondents.

Data Collection Techniques
The data collection technique used a questionnaire technique (questionnaire) by utilizing Google form and distributing online questionnaires using Whatsapp to respondents.

Variable Operational Definition
The operational definition of variables in this study is interpreted as follows:

Table 2 Variable Operational Definition

No	Variable	Theory	Indicator
1	Price	Kotler and Amstrong (2012:278)	Price Affordability, Price Compatibility with Product Quality, Price Competitiveness, and Price Compatibility with Benefits.
2	Information Quality	Sutabri (2012:41)	Accurate, Timely, Relevant
3	Perceived Risk	Jusuf (2018:50)	Financial Risk, Performance Risk, Physical Risk, Social Risk, and Psychological Risk.
4	Purchase Decision	Kotler and Keller (2012:479)	Product Selection, Brand Selection, Purchase Channel Selection, Purchase Time Determination, Purchase Amount, Payment Method

Source: Processed by researchers (2021)

IV. Results And Discussion
Validity Test
The results of testing the validity of the researcher used the SPSS program version 25, the results of all r count values were greater than the r table (0.195), it could be stated that each question item on each of the price variables, information quality, perceived risk, and online purchasing decisions was declared valid and can proceed to the next instrument test.

Reliability Test
The reliability test of this research utilized the SPSS program using one shot.

Table 3 Recapitulation of Research Instrument Reliability Test Results

Variable	Cronbach Alpha	Alpha	Information
Price (X1)	0.813	0.70	Reliable
Information Quality (X2)	0.823	0.70	Reliable
Perceived Risk (X3)	0.893	0.70	Reliable
Online Purchasing Decision (Y)	0920	070	Reliable

Source: SPSS Statistical Data (2022)

Based on table 3 states that each variable obtained a Cronbach alpha value greater than 0.70. This means the measuring instrument used in this study was reliable or consistent.

Normality Test

Normal P-P Plot of Regression Standardized Residual
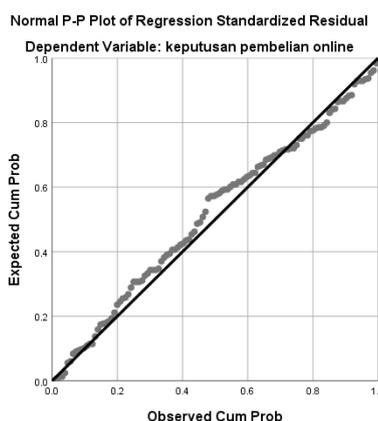Dependent Variable: keputusan pembelian online

Figure 2 Normality Test Results
Source: SPSS Statistical Data (2022)

Figure 2 is the result of the normality test using the normal P-plot graph. In this figure, the results showed that the data spread around the diagonal line and follows the direction of the diagonal line, which indicated a normal distribution pattern, so the regression model met the normality assumption.

Multicollinearity Test

Table 4 Multicollinearity Test Results

	Coefficients^a							
Model		Unstandardized Coefficients		Standardized Coefficients				Collinearity Statistics
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	2.956	2.145		1.378	.171		
	Harga	.467	.115	.314	4.072	.000	.762	1.313
	kualitas informasi	.500	.127	.302	3.942	.000	.767	1.303
	persepsi risiko	.301	.066	.323	4.584	.000	.908	1.101
a. Dependent Variable: keputusan pembelian online								

Source: SPSS Statistical Data (2022)

Based on table 4 the results of the multicollinearity test above showed that the tolerance value for the independent variable was > 0.10 and the VIF value for the independent variable was < 10, with a description of the price variable obtaining a tolerance value of 0.762 and VIF 1.313, the information quality variable obtained a tolerance value of 0.767 and VIF 1.303, and the perceived risk variable obtained a tolerance value of 0.908 and VIF 1.101, which means that the regression model did not has multicollinearity.

Heteroscedasticity Test

Based on table 5 it can be seen that the significant value (Sig.) of the price variable was 0.340, the quality of information was 0.762 and the perceived risk was 0.045 and was greater than 0.05 which means that there was no heteroscedasticity problem.

Table 5 Heteroscedasticity Test Results

	Coefficients^a					
Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	5.810	1.300		4.468	.000
	Harga	-.067	.070	-.099	-.958	.340
	kualitas informasi	-.023	.077	-.031	-.303	.762
	persepsi risiko	-.081	.040	-.193	-2.031	.045
a. Dependent Variable: Abs_Res						

Source: SPSS Statistical Data (2022)

Multiple Linear Regression Analysis

Multiple linear regression analysis is intended to analyze the effect of price variable X1, quality of information X2, perceived risk X3, and Online purchasing decisions Y in E-Commerce

Table 6 Multiple Linear Regression Test Results

	Coefficients^a					
Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	2.956	2.145		1.378	.171
	Harga	.467	.115	.314	4.072	.000
	kualitas informasi	.500	.127	.302	3.942	.000
	persepsi risiko	.301	.066	.323	4.584	.000
a. Dependent Variable: keputusan pembelian online						

Source: SPSS Statistical Data (2022)

Table 6 is the result of the multiple linear regression test which can be explained as follows:

$$Y = 2.956 + 0.467X_1 + 0.500X_2 + 0.301X_3 + e$$

a. The constant value (a) was 2.956, indicating the state of the online purchasing decision variable (Y) before being influenced by other variables, namely price variables (X1), information quality (X2), and perceived risk (X3). If there is no change in the independent variable, the online purchasing decision variable is 2.956.
b. The value of the price regression coefficient (X1) showed a result of 0.467, which means that the price was positive. So if the price is more in accordance with consumer purchasing power, quality, product benefits, and affordable, the purchasing decision will increase
c. The value of the regression coefficient for the quality of information (X2) showed a result of 0.500, which means that the quality of information was positive. So if the more informative and quality information on the product, the purchasing decision will increase.
d. The value of the perceived risk regression coefficient (X3) showed a result of 0.301, which means that the perceived risk was positive. So if the better and more positively the buyer perceives risk, the purchasing decision will increase.

Coefficient of Determination (R^2)

Table 7 Coefficient of Determination Test Results

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.697ª	.485	.472	3.24517
a. Predictors: (Constant), persepsi risiko, kualitas informasi, harga				

Source: SPSS Statistical Data (2022)

Based on table 7, the Adjusted R Square value of 0.472 can be said that the price variable (X1), quality of information (X2), and perceived risk (X3) can explain the online purchasing decision variable (Y) of 47% and the remaining 53% was influenced by other variables outside of this study.

Hypothesis Test

Table 8 Hypothesis Test Results

Coefficientsª						
Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	2.956	2.145		1.378	.171
	Harga	.467	.115	.314	4.072	**.000**
	kualitas informasi	.500	.127	.302	3.942	**.000**
	persepsi risiko	.301	.066	.323	4.584	**.000**
a. Dependent Variable: keputusan pembelian online						

Source: SPSS Statistical Data (2022)

Based on table 8, the results are as follows:

Price variable (X1), information quality variable (X2), and perceived risk variable (X3) obtained the same significant value of 0.000 less than 0.05, meaning that price, information quality, and perceived risk variables influenced online purchasing decisions in E-Commerce.

Interpretation of Results

Price (X1) had a significant effect on online purchasing decisions (Y) in E-Commerce. These results were in line with Laras and Bawono's research (2021). This research explained that when consumers make purchasing decisions online it is not solely about the price of products offered by sellers on cheap E-Commerce, but consumers also consider the quality of the products they will get, considering the prices that sellers offer on E-Commerce with the price that sellers offer in traditional markets, also considering how much benefit will be obtained from the product.

Information quality (X2) had a significant effect on online purchasing decisions (Y) in E-Commerce. The results of this study were consistent with Dyatmika's research (2018) and inconsistent with Rozieqy and Arifin's research (2018) that the quality of information did not significantly influence online purchasing decisions. This means that when consumers make purchasing decisions online in E-Commerce, consumers need accurate, timely, and relevant information from the seller regarding the goods to be purchased because this information acts as an intermediary between sellers and buyers who do not meet each other during buying and selling transactions on E-Commerce.

Perceived risk (X3) had a significant effect on online purchasing decisions (Y) in E-Commerce. The results of this study were consistent with the research of Prasetyani and Wahyuningsih (2019) but inconsistent with the research of Laras

and Bawono (2021) which stated that perceived risk had no significant effect on online purchasing decisions. This means that when consumers make purchasing decisions online in E-Commerce, consumers consider the risks they will experience during online buying and selling transactions, so there is a need for seller efforts to minimize the risks that will be faced by consumers, among the efforts that sellers can make to minimize negative consumer perceived is providing excellent service, providing quality information in accordance with the product, implementing after-sales service, and including testimonials from consumers who have made purchases.

V. Conclusions and Recommendations
Conclusions
Price variable (X1) had a significant effect on online purchasing decisions in E-Commerce, Information quality variable (X2) had a significant effect on online purchasing decisions in E-Commerce, Perceived risk variable (X3) had a significant effect on online purchasing decisions in E-Commerce.

Recommendations
The results of this study can be used as a source of information and reference for sellers in E-Commerce in setting prices, information quality, and perceived risk. Sellers are not only based on providing low product prices but also provide prices that are in accordance with the quality and benefits of the product. Information quality is the variable with the greatest influence, it is important for E-Commerce users that information is accurate, timely, and relevant. This means that the seller must maintain and even improve the quality of the product information he offers, because the more quality the information provided by the seller, the easier it will be for the buyer to understand the product he is going to buy. Minimizing the perceived risk that occurs to buyers by providing excellent service, providing quality information according to the product, providing post-sales services, and including original testimonials from previous consumers. Because the consumer will consider the risks that may occur when making a purchase decision, the greater the risk faced by the consumer, the consumer can cancel the purchase decision. Not forgetting the importance of sellers paying attention to product development, product development is the main strategy that involves modifying or creating new products, but still related, that can be marketed to customers. Product development includes products with special specifications ordered by consumers Aslamiyah, et al (2018)

Consumers using E-Commerce should be selective in making online purchasing decisions, not only tempted by low prices, but also considering the quality and benefits of the products they will get, understanding as best as possible about the information conveyed by the seller, and still considering the risks that will occur in online purchasing decisions in E-Commerce. The results of this study can be used as supporting materials and considerations for further research. The magnitude of the effect of price, quality of information, and perceived risk on online purchasing decisions in E-Commerce was 47% due to the bias of the respondents' answers so it becomes an opportunity for further research to re-examine these variables, further research can add the variables of convenience, trust, features, advertising, security, and brand ambassadors, or making existing variables as a moderating variable.

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