

# E-Service Quality, Perceived Risk and Purchase Decisions at Tokopedia: A Study on Tokopedia Application Users in Semarang

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**Abstract**— Tokopedia is one of the leading marketplaces from Indonesia that has succeeded in taking advantage of domestic business market opportunities. The problem faced is the decrease in the number of visitors in 2018-2019. Until 2021 the number of visits to Tokopedia has never reached the number of visits in 2018. E-Service Quality and Perceived Risk are factors that can influence purchasing decisions. This study aims to determine the effect of e-service quality and perceived risk on purchasing decisions in the Tokopedia marketplace. The sampling technique uses a non-probability sampling technique, namely purposive sampling. The number of samples is 100 Tokopedia customers. Data analysis used multiple linear regression using SPSS computer application. This study concludes that E-Service Quality and Perceived Risk have a significant effect on purchasing decisions, either partially or simultaneously. Recommendations for Tokopedia are optimizing search engine optimization (SEO), regularly checking application systems and being responsive in responding to errors and bugs, and clearer information about promo terms and conditions, and being able to add security features automatically. Tokopedia must also improve data security internally as well as cooperate with third-party cybersecurity institutions.

**Keywords**— E-Service quality, perceived risk, purchase decisions.

## I. INTRODUCTION

Internet technology is one of the technological developments that has a broad impact on various aspects of human life. The presence of the internet not only makes it easier for humans to get the information they need, but also has an impact on the emergence of new business opportunities and changes in consumer behavior, one of which is the use of gadgets and activity trends. According to Maulida data (2022) as many as 96.4% of internet users in Indonesia aged 16 to 14 years access via smartphones [1]. Indonesian internet users spend 8 hours 52 minutes via cell phone. The current use of internet media can affect buying and selling activities which make this kind of trading activity more global. Marketplace is a business model in the form of an electronic market similar to e-commerce that accommodates buying and selling activities from various stores through applications or websites.

Tokopedia is one of the marketplaces from Indonesia that has succeeded in taking advantage of opportunities in the domestic business market. In addition to providing various fashion, cosmetic, household and economic products, Tokopedia also provides payment services for airline tickets, electricity, trains, credit and so on.

Based on the data shown by Iprice, Tokopedia experienced a decline in ranking in 2018 which was ranked 1st, then 2019 was ranked 2nd and is still in the same position in 2020 [2]. The number of visitors also experienced the worst decline in 2019, which was -56.56% from the total number of visitors of 168 million in 2018 to 72 million in 2019. Although the number of Tokopedia visitors experienced an increase in 2021, it has not been able to match the achievements in 2015. 2018 which was only 157 million visitors [3], [4]. The decrease in the number of visitors indicates a decrease in buying interest at Tokopedia.

In the marketplace business, convenience, accuracy, and speed of service are very important. By measuring the service quality of the site, a marketplace can predict how consumers perceive services and evaluate the quality of site services for the development of new services. The quality of service in the marketplace is called E-Service Quality.

Parasuraman et al. (2005) explained that e-service quality is a tool to measure how far web applications can provide facilities for consumers during the process of shopping, buying, and delivering products effectively and efficiently. There are seven dimensions of electronic service quality, namely efficiency, trustworthiness, compliance, security, responsiveness, compensation, and contact [5].

When consumers want to buy a product or service online, they do not see and feel the product or service directly. So by facilitating consumer needs such as providing ease of transactions and the return process, completeness and accuracy of features, honesty in offers, responsiveness in handling complaints will greatly influence consumer purchasing decisions. Raje & Khanna (2012) stated that e-service quality affects buyer behavior during online shopping if neither price nor promotion can ensure purchasing decisions [6].

Several research results regarding the effect of e-service quality on purchasing decisions yield different conclusions. Research by Kusuma (2016); Naif (2017); Dapas et al. (2019); Sinurat & Ali (2020) concluded that e-service quality has a positive and significant effect on purchasing decisions [7]–[10]. Different findings are shown in the research results of Thoby and Wahyono (2021) who conclude that e-service quality has no significant effect on purchasing decisions [11].

However, several consumer complaints were found, such as the protracted goods claim process, unilateral cancellation

of promos, non-response when there was an attempted credit card fraud. From these complaints, consumers demand a response from Tokopedia to handle consumer returns and complaints and not display promos that can no longer be used on the start page and clarify the terms and conditions of the promo.

Kotler & Armstrong (2018) state that purchasing decisions consist of long stages that involve individuals from recognizing problems to post-purchase behavior [12]. In that process, consumers will learn about the product from introduction to purchase evaluation. At first, consumers recognize the need that is triggered by internal and external impulses, then consumers will seek information about products from the family, public reviews. Then look for and evaluate alternative options. This is because consumers feel there is uncertainty about the consequences during the shopping process, making purchases, to sending products/services. This is called perceived risk. Featherman & Pavlou (2003) explained that before deciding to buy, during the decision to buy online there are various factors that are taken into consideration, such as the perceived risk factor, where online transactions will give negative assumptions that may occur [13].

Suresh and Shashikala (2011) explain that risk perception is a situation where consumers are faced with uncertainty about the future consequences of their purchasing decisions [14]. Nitisusastro (2012) also explained that perceived risk is a state of uncertainty felt by consumers because they have difficulty predicting purchase decisions [15]. Some news and reviews regarding leaked user data, inappropriate products, refund balances that are difficult to disburse. This will certainly make consumers disappointed and do not want to make repeat purchases in the future. Therefore, the better Tokopedia improves the consumer's risk perception aspect, the more it supports purchasing decisions because the risks they face are getting smaller.

Kusuma's research (2016); Baskara and Hariyadi (2014) conclude that perceived risk has a positive and significant impact on the purchasing decisions of Tokopedia application users [16]. Perceived risk was also found to have a significant effect on purchasing decisions in the research of Yee & San (2011); Jusuf & Munandar (2021); and Nam & Lee (2009) [17]–[19]. On the other hand, research by Rahmadi and Malik (2016) concludes that perceived risk has no significant effect on purchasing decisions [20]. Different findings are shown in Saputri's research (2015) which concludes that perceived risk has a negative and significant effect on purchasing decisions [21]. The results of this study show that there are differences with previous studies related to perceived risk variables that influence purchasing decisions. Based on the inconsistent research findings, further research needs to be done to prove the consistency of the effect of e-service quality and perceived risk on purchasing decisions.

## II. THEORETICAL FRAMEWORK

### A. Consumer Behavior

Schiffman & Wisenblit (2015) explain that consumer behavior contains understanding as a process when someone

tries to search, purchase, use, evaluate, or act after using the desired product/service according to their needs [22]. Setiadi (2005) explains that consumer behavior is understood as a direct response to obtain, consume, spend products/services, as well as decisions that precede or follow from this response [23]. It can be stated that the behavior of a consumer is a study related to how a person or group of individuals can determine their decisions, transactions, or subsequent activities for the products they have consumed.

### B. Purchasing Decisions

Haudi (2021) defines decisions are taken after going through a selection process between two or more alternative options [24]. Kotler and Armstrong (2018) describe the notion of purchasing decisions if consumers actually want to buy products [12]. Schiffman & Kanuk (2010) also explain that purchasing decisions are decisions made by individuals where they make their choice on one choice from various available options [25]. Prabowo and Suwarsi (Naif, 2016) define online purchasing decisions as the transaction stage of purchasing through intermediaries such as websites, applications or social media that offer products and services by facilitating various payment methods [8]. The benchmarks in purchasing decisions according to Kotler & Armstrong (2018) such as product stability, fairness in buying products, recommending to other parties, and repeat purchases [12].

### C. E-Service Quality

Tjiptono (2007) defines service quality as an effort to fulfill products and services together with consumer desires and the accuracy of the delivery method in order to meet the expectations and satisfaction of these customers [26]. Suryani (2013) explained that online purchases are influenced by the direct service that consumers feel when looking for information or direct communication [27]. Chang, et al. (2009) added that e-service quality is "the meaning of service is comprehensive which includes both pre- and post-website service aspects." Parasuraman et al. (2005) explained that electronic service quality is how far web applications can provide facilities for consumers while shopping, buying, or delivering products effectively and efficiently [29].

Parasuraman et al. (2005) mentioned that there are seven dimensions that affect electronic service quality including efficiency, reliability, compliance, privacy, responsiveness, compensation and contact [29]. Efficiency refers to the ability of consumers to access web applications, seek to obtain the products they want, and product-related information or leave the application easily. Reliability relates to the functionality of the application, specifically the level of availability and functionality of the application. Fulfillment includes the accuracy of service promises, product availability, and product delivery based on the agreement (time). Privacy relates to the ability to ensure that no shopping activity information is shared with other parties and consumer credit card information. Responsiveness is the ability of online sellers to provide accurate information to consumers in case of problems, to have a systematic return of products, and to facilitate online guarantees. Compensation relates to refunds,

product handling and shipping costs provided to customers. Contact relates to efforts to meet consumer needs online and via telephone.

D. Perceived Risk

Stone & Gronhaug (1993) mention that risk consists of two dimensions, namely uncertainty and consequence [30]. Ye (2004) describes perceived risk explaining "perceived risk is a fundamental concept in consumer that implies that consumers experience behavior pre-purchase uncertainty as to the type and degree of expected loss resulting from the purchase and use of a product" [31]. Schiffman & Wisenblit (2015) mention that risk perception means the uncertainty experienced by customers when they are unable to predict future consequences related to buying decisions [22]. Perceived risk is defined as an individual's subjective belief in which there is some possibility that each particular choice will lead to an undesired outcome. Nitisusastro (2012) also adds that perceived risk is the uncertainty experienced by customers when they have difficulty predicting the future consequences of buying decisions [15].

The measurement of perceived risk uses six indicators, namely financial risk, social risk, performance risk, physical risk, psychological risk, and time risk. Financial risk relates to the possible risk of losing money. Meanwhile, social risk is in the form of getting a negative view of the social environment. Performance risk includes a sense of doubt and disappointment about the non-conformity of the product ordered. Furthermore, physical risk is in the form of a sense of concern about the safety of the product purchased or when making a transaction. Furthermore, psychological risks include a feeling of psychological discomfort and concern when providing personal information. Time risk relates to the length of delivery time.

Based on theory and literature review, the following research hypotheses were formulated:

H1: e-service quality (X1) significantly influences the purchase decision (Y) of Tokopedia application users.

H2: perceived risk (X2) significantly influences the purchasing decision (Y) of users of the Tokopedia application.

H3: e-service quality (X1) and perceived risk (X2) significantly influence the purchase decision (Y) of Tokopedia application users.

III. METHOD

This study aims to determine the effect of e-service quality and perceived risk on purchasing decisions for Tokopedia marketplace users in Semarang. This type of research is explanatory research. Sampling was done by using purposive sampling technique. The number of samples used is 100 respondents. The sample criteria include: (a) domiciled in the city of Semarang; (b) a minimum age of seventeen years; (c) have purchased using the Tokopedia application at least once in the last six months.

IV. RESULTS

In the following section, the results of data analysis using linear regression analysis are presented to prove the effect of

e-service quality and perceived risk on purchasing decisions.

TABLE 1. Correlation Test Between Variables

	E-Service Quality-Purchase Decision	Perceived Risk-Purchase Decision
Pearson Correlation	.713	.782
Sig (2-tailed)	.000	.000
N	100	100
R	.824	
R Square	.679	

Source: data analysis output, processed (2022)

Table 1 shows that the correlation between e-service quality and purchasing decisions is significant with a Sig (2-tailed) value of 0.00. The Pearson correlation value between e-service quality and purchasing decisions is 0.713, which indicates that the degree of relationship between the two variables is strong. The direction of the correlation between e-service quality and purchasing decisions is positive. If the e-service quality variable changes in value, it will be followed by changes in the value of the purchasing decision variable in the same direction.

The correlation between perceived risk and purchasing decisions is significant, which is indicated by the Sig (2-tailed) value of 0.00. The value of the Pearson correlation between perceived risk and purchasing decisions is 0.782 which indicates the strong degree of relationship between perceived risk and purchase decisions. The direction of the correlation between perceived risk and purchasing decisions is positive. If the perceived risk variable changes in value, it will be followed by a change in purchasing decisions in the same direction.

The value of the coefficient of determination (R Square) is 0.679 which indicates that 67.9 percent of the variability of purchasing decisions can be explained by e-service quality and perceived risk.

TABLE 2. Multiple Linear Regression Test

Model	Coefficients <sup>a</sup>				
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-3.513	1.326		-2.649	.009
E-Service Quality	.113	.025	.347	4.509	.000
Perceived Risk	.337	.047	.552	7.172	.000
F Test	102.522		Sig. F	.000	

a. Dependent Variable: Purchase Decision

Source: data analysis output, processed (2022)

Table 2 shows that both the e-service quality and perceived risk variables have positive regression coefficients. This shows that the two independent variables have a positive effect on purchasing decisions. The significance value of both e-service quality and perceived risk tests is 0.00, which is smaller than 0.05. E-service quality and perceived risk partially have a significant effect on purchasing decisions. Perceived risk has a dominant influence on purchasing decisions.

The value of the F test is 102.522 with a sig. F .000 which is smaller than 0.05. So it can be concluded that e-service



quality and perceived risk simultaneously have a significant effect on purchasing decisions.

## V. DISCUSSIONS

The purchase decision is a long stage that involves individuals to recognize the problem to behavior after the purchase [12]. When buying a product, buyers generally go through various stages, such as recognizing needs, seeking information, evaluating various options, buying decisions, and post-purchase behavior. The buying process certainly involves the convenience, accuracy, and speed of the site in serving consumers. This kind of thing is called Electronic Service Quality. E-service quality is a useful tool to measure how far web applications can provide facilities for consumers during the process of shopping, buying, and delivering products effectively and efficiently [29].

Based on the results of the analysis there is a strong correlation between the electronic service quality variable and purchasing decisions. E-service quality is also proven to have a positive and significant effect on purchasing decisions. The higher the e-service quality, the higher the consumer purchasing decisions.

The conclusions of this study support the conclusions of studies from Kusuma (2016); Naive (2017); Dapas et al. (2019); and Sinurat & Ali (2020) which show that there is a significant effect of e-service quality on consumer purchasing decisions [7]–[10]. On the other hand, the results of this study do not support the conclusions of Thoby and Wahyono's (2021) research which concludes that e-service quality has no significant effect on purchasing decisions [11].

By improving the performance of e-service quality by evaluating service to consumers, it can improve purchasing decisions. The influence of e-service quality shows that the majority of consumers demand the best service quality, which does not only meet needs but pays attention to convenience, accuracy, and speed of service. Thus, e-service quality is an important variable to consider given the intense competition due to the large number of available marketplace options.

Respondents assessed that the e-service quality variable in the Tokopedia application was good. This includes ease of making payment transactions, completeness and suitability of features, protection of payment transaction information, clear product return mechanisms, conformity with the warranty provided, providing returns, contact features with the marketplace, customer service available online, and chat with sellers. Tokopedia still needs to improve several points, namely the ease of finding products that consumers need, especially in the sports category, page loading speed, accuracy in carrying out consumer requests, honesty in the offers given, keeping promises made by consumers, protecting shopping activity information and personal data, notification notifications when there are problems, as well as handling consumer problems and complaints.

In the buying process, consumers will learn about the product from introduction to purchase evaluation. At first, consumers recognize the need that is triggered by internal and external impulses, then consumers will seek information about products from the family, public reviews. Then look for and

evaluate alternative options. This is because consumers feel there is uncertainty about the consequences during the shopping process, making purchases, to sending products/services.

Based on the results of data analysis, it can be seen that the relationship between perceived risk variables and purchasing decisions is strong. Perceived risk is proven to influence purchasing decisions for Tokopedia application users in Semarang in a positive direction.

This conclusion supports the research results of Kusuma (2016); Putra and Taufan (2014); Yee & San (2011); Jusuf & Munandar (2021); Nam & Lee (2009) who conclude that perceived risk has a significant effect on purchasing decisions [7], [16]–[19]. When consumers make repeat purchases and remain satisfied and do not pose a risk to them, the perception of risk will decrease and disappear thereby increasing trust. Based on the results of this study, it can be concluded that to improve purchasing decisions, it can pay attention to aspects of perceived risk. The better Tokopedia pays attention to the perception of risk to consumers, the more it supports purchasing decisions because the risks they face are getting smaller and vice versa.

The results of this study do not support the conclusions of Rahmadi and Malik's (2016) research which concludes that perceived risk has no significant effect on purchasing decisions [20]. The results of this study also do not support the conclusions of Saputri's research (2015) which concludes that perceived risk has a negative and significant effect on purchasing decisions [21].

The majority of respondents considered that the perceived risk variable in the Tokopedia application was good. These include the risk of losing money, negative views from the social environment, disappointment with the incompatibility of the product ordered, doubts due to product uncertainty, delivery times, worries in transactions, concerns about the safety of the products purchased, psychological discomfort, and concerns about providing information to Tokopedia. . Meanwhile, Tokopedia still needs to improve several points that must be considered again regarding the incompatibility of the product ordered, product uncertainty, delivery time and psychological discomfort.

Based on the findings of studies that have been carried out simultaneously, it can be seen that electronic service quality and perceived risk have a positive effect on purchasing decisions. So if the electronic service quality and perceived risk variables increase, it will have an impact on the purchasing decisions of Tokopedia consumers in Semarang City. In this study, it is known that the relationship between e-service quality and perceived risk in purchasing decisions is included in the very strong category.

The results of this study reveal the magnitude of the influence of the variable e-service quality and perceived risk on consumer decisions to buy in the Tokopedia application. Consumers demand the need for product information and good service so that not only quality products but also convenience during shopping. Tokopedia also needs to understand consumer perceptions of risk, especially when buying online because the online buying process is different from face-to-

face purchases. This requires consumers to be prepared with unpredictable consequences. Understanding the high risk can influence the decision to make an online purchase.

## VI. CONCLUSIONS

This study aims to provide additional empirical evidence regarding the effect of electronic service quality and perceived risk on purchasing decisions. The conclusion of this study is that E-service quality has a significant effect on purchasing decisions on the Tokopedia application. Tokopedia's e-service quality is in the good category. Several aspects that need to be improved include application performance efficiency, honesty in every offer, information protection, and problem solving. Perceived risk is proven to have a significant effect on purchasing decisions in the Tokopedia application. Purchasing online is different from face-to-face where consumers are required to be ready with the consequences so as to encourage purchase decisions. Tokopedia's perceived risk is categorized as good. Some aspects that need to be improved are several indicators such as product performance risk, length of delivery time and psychological comfort. E-service quality and perceived risk simultaneously have a significant effect on purchasing decisions for users of the Tokopedia application. This study provides conclusions that strengthen several previous research results about the effect of electronic service quality and perceived risk on purchasing decisions.

Some suggestions that can be taken into consideration in improving the purchasing decisions of Tokopedia consumers. Although the e-service quality on Tokopedia is good, there are several aspects that need to be improved. One of them is the ease of finding the desired product. Tokopedia can optimize search engine optimization (SEO) to make it easier for consumers to find the desired item. Furthermore, it is also necessary to improve the ease of loading pages and executing consumer orders. Tokopedia must routinely check the application system and be responsive in responding to errors and bugs. Offers such as new user promos, cashback vouchers, and free shipping that sometimes cannot be used must be improved. If the voucher period cannot be used, it should not be displayed on the page. Tokopedia needs to clarify the terms and conditions of the promo. Aspects of information protection and responsiveness in handling problems are other aspects that need to be improved. Tokopedia can add security features automatically and improve data security internally as well as cooperate with third-party cybersecurity institutions that have a good reputation and are more responsive in solving user problems.

Several aspects of Tokopedia's perceived risk also require improvement. Aspects that need to be considered such as the suitability of the product ordered. Tokopedia's sales partners need to provide detailed information before sending goods so as not to harm consumers. In addition, for Tokopedia to have a system and team that can monitor the products and activities of sellers to reduce consumers' worries about potential risks. Some users also complained about the delivery time where some old sellers were found in packaging orders. Sellers are expected not to delay the delivery of goods and be more active

in checking orders and for Tokopedia to be more responsive in handling users who want to refund orders.

It is necessary to conduct further research on several other variables outside the variables studied in this study. Other variables that are predicted to influence purchasing decisions on the Tokopedia application in Semarang City include price, trust, convenience, e-word of mouth, and so on.

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