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Dudi Amarullah

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# How trust and perceived risk create consumer purchase intention in the context of e-commerce: moderation role of eWOM

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Dudi Amarullah

Faculty of Economics and Business,  
Airlangga University,  
Jln. Airlangga 4 Surabaya, Indonesia  
Email: dudiamarullah1895@gmail.com

**Abstract:** E-commerce is a business model that has developed very rapidly. In this context, this research is intended to examine how the mechanism of consumer trust and consumer perceived risk in creating purchase intention in the context of e-commerce, and how the role of eWOM in influencing the relationship between trust, perceived risk, and purchase intention. Empirical data were collected by distributing questionnaires to respondents in Indonesia. Hypothesis testing is done by using partial least square-structural equation modelling (PLS-SEM). The findings in this study indicate that trust has a positive impact on purchase intention, while perceived risk has a negative impact on purchase intention. For the moderating effects, the findings in this study indicate that eWOM was able to moderate the impact of perceived risk on purchase intention. In contrast, it was also found that eWOM was unable to moderate the impact of trust on purchase intention. Several implications are also presented at the end of the paper.

**Keywords:** e-commerce; trust; perceived risk; eWOM; online purchase intention.

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**Biographical notes:** Dudi Amarullah is an independent researcher based in Indonesia. He completed his undergraduate education at the Faculty of Economics and Business, Khairun University, Indonesia, with a specialisation in marketing management. He is a scholarship recipient from the Education Fund Management Institute (LPDP), Ministry of Finance of the Republic of Indonesia, and is currently in postgraduate studies at the Faculty of Economics and Business, Airlangga University, Indonesia, with a specialisation in marketing management. His research interests are digital marketing, consumer behaviour, strategic management, brand management, and marketing communications.

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## 1 Introduction

E-commerce refers to an electronic platform, or something similar, that brings together buyers and vendors to carry out transactions for the sale of goods or services (Moriset, 2020). For most companies, e-commerce is one of the business models and sales channels that are considered important (Thompson et al., 2018). E-commerce offers a new way of

shopping that moves every marketer to present new business strategies that can adapt to changing environments in e-commerce which are experiencing rapid changes (Nisar and Prabhakar, 2017). At present, e-commerce has experienced very rapid development and is increasingly expanding the scope of businesses that are not only focused on traditional strategies but are more directed at a more intense business strategy in using the internet (Zhao et al., 2019). Reports have shown that Indonesia is the country with the most e-commerce users in the world. In 2019, it was recorded that 91% of internet users in Indonesia, aged 16 to 64 years, had purchased products online with an online payment method via mobile devices by 79%, and PC/Laptop devices by 29% (Globalwebindex.com, 2020). One of the e-commerce sites with the largest users in Indonesia is Tokopedia with 805.5 million visitors from January to June 2020 (Cuponation.co.id, 2020).

Research on e-commerce has been conducted before but only focuses on satisfaction (Nisar and Prabhakar, 2017), branding (Agmeka et al., 2019), subjective norm (Lim et al., 2016), and so on. However, there are many other aspects related to consumer purchasing behaviour in e-commerce that has not been discussed previously. For example, how consumers can trust an unknown seller? How do consumers reduce the possibility of risks that must be borne when making purchases in e-commerce? How do consumers use eWOM in e-commerce to minimise risks? Therefore, this study intends to analyse how the mechanisms of trust and perceived risk influence consumer online purchase intention and how eWOM plays a role in influencing consumer behaviour in an e-commerce context.

Trust and perceived risk are important concepts in e-commerce context. This is because trust and perceived risk are able to determine consumer behaviour in making purchases in e-commerce (Thompson et al., 2018; Abou-Elgheit, 2019), and can minimise risk and uncertainty between sellers and buyers during the online purchase transaction process (Xiao et al., 2019). Consumers must believe that the seller is not cheating which results in losses to the consumer. Therefore, consumers who do not trust the seller often cancel the online purchase process (Sembada and Koay, 2019).

In the context of e-commerce, making purchase transactions carries a greater risk than traditional purchase transactions. This is because consumers cannot predict precisely the consequences that will be obtained when making an online purchase (Chiu et al., 2014). The importance of minimising the risk for consumers can be seen from the many frauds and privacy violations that occur on the internet, causing consumers to ensure that consumers' personal data will not be misused by sellers in e-commerce (Belanche et al., 2012). Unlike traditional purchase transactions that bring together consumers and sellers directly, consumers must judge very carefully the sellers in e-commerce to make purchases. On the other hand, in this way consumers can build trust and minimise the risks that may occur. Therefore, how consumers build trust and try to minimise risk in the context of e-commerce is complicated. However, several previous studies have not discussed this (Nisar and Prabhakar, 2017; Agmeka et al., 2019).

How trust and perceived risk affect online purchase intention cannot be understood directly. In this study, the degree of trust and risk perception in influencing online purchase intention is determined by eWOM. eWOM plays an important role in reducing risk and also increasing consumer trust in sellers in e-commerce. A positive eWOM will be more likely to reduce consumer risk perceptions and increase trust. Conversely, a negative eWOM will further strengthen consumer perceptions that there is a big risk and there is no guarantee to trust the seller. In other words, in this study, eWOM plays a

moderating role in strengthening or weakening the impact of trust and perceived risk on purchase intention in e-commerce context.

This paper are further sorted and described in the following sections. In the second section, we describe the theoretical background and the development of hypotheses. After that, the research methodology will be presented which will then explain the results of the analysis. Finally, the conclusions and implications of the study will be presented.

## **2 Theoretical background and hypotheses development**

### *2.1 The relationship between trust and purchase intention*

Trust refers to a consumer expectation that the seller will not commit fraud and take profits which ultimately harm consumers (Pappas, 2016; Al-Adwan et al., 2020). To achieve successful transactions, especially in online purchase transactions, trust between buyers and sellers is a must and without trust, it is impossible for consumers to make purchases. In other words, trust is a basic essence that buyers cannot ignore when making online purchase transactions (Lu et al., 2016). In e-commerce context, consumer difficult to assess where the sellers are trustworthy and do not. This is exacerbated by a lot of fraud and discrepancies between the products ordered and the products received by consumers (Ponte et al., 2015). However, like it or not, consumers must continue the purchase transaction to obtain the desired product, and in these conditions, consumer trust is very important. Consumers will not make purchases if consumers do not have trust in the seller (Xiao et al., 2019). Therefore, maintaining and managing consumer trust is an important job that sellers in e-commerce must do (Sembada and Koay, 2019; Shao et al., 2019). A study from Thompson et al. (2018) reported that purchase intention is determined by the level of consumer trust in the seller. In addition, trust is also an antecedent of consumer loyalty.

Several scholars agree that trust is an important aspect of purchasing transactions in e-commerce (Stouthuysen et al., 2018; Yang et al., 2020). From a consumer's standpoint, trust is a very crucial factor in influencing consumer purchasing behaviour. The success of an online purchase transaction is largely determined by how much consumers trust the seller. If consumers trust the seller, the online purchase transaction will run smoothly and vice versa (Al-Ansi et al., 2019). However, trust is not only crucial from a consumer's viewpoint in determining which seller to choose. Further, Consumer trust is also a crucial factor for sellers in e-commerce because, with high trust, the possibility of consumers to make purchases and also the tendency of consumers to make repeat purchases at a later date will also be higher as well. In other words, trust also plays an important role for sellers in e-commerce which can determine their continued success (Beldad et al., 2016; Bateman et al., 2017). Therefore, building consumer trust also means building profits in the long run (Sullivan and Kim, 2018).

Previous empirical studies have reported a strong relationship between trust and purchase intention. A study from See-To and Ho (2014) reported that consumers with high trust in a seller more willing to make a purchase than consumers with a low level of trust. Hong and Cha (2013) also reported that trust is a determinant factor of purchase intention. The stronger consumer confidence in the seller, the higher the likelihood that consumers will make a purchase. Therefore, the hypothesis put forward is:

H1 The higher consumer trust in retailers in e-commerce, the higher the purchase intention.

## *2.2 The relationship between perceived risk and purchase intention*

Perceived risk is one of the central aspects of marketing strategy, especially in online purchase transactions (Wu et al., 2015; Khasawneh and Haddad, 2020). The definition of perceived risk itself can be interpreted depending on which angle the concept is viewed from. For example, Casidy and Waymer (2016) defined perceived risk as “the degree to which one perceives the likelihood of experiencing an unfavourable outcome of a decision or an action”. From this definition, perceived risk refers more to consumer attention to errors in decision making that cause a mismatch between what is obtained and what is expected. On the other hand, Chang and Tseng (2013) define perceived risk as “a consumer's perception of the uncertainty and adverse consequences of engaging in an activity”. The second definition provides a broader meaning of perceived risk which includes conditions of uncertainty and the possibility of obtaining bad results as a consequence of the decisions that have been taken.

Some scholars have agreed that perceived risk is very fundamental in all types of online transactions (Rouibah et al., 2016). The degree of consumer perceived risk will greatly affect consumer attitudes and behaviour during online transactions (Yang et al., 2015). Consumers with high-risk perceptions are more likely to distrust sellers than consumers with low-risk perceptions so that it will determine whether consumers will make a purchase or not. In line with this, Kim and Koo (2016) reported a strong influence of perceived risk on purchase intention. With the high uncertainty of behaviour and environmental uncertainty in e-commerce, it is more possible for consumers to perceive a high risk as well. The higher the uncertainty that arises, the higher the consumer's risk perception will be and will have an impact on purchase intention.

Purchase transactions are considered riskier in the e-commerce context than in the traditional purchase transactions which require a direct meeting between the seller and the buyer. The high risk is due to the inability of consumers to predict with certainty whether the results to be obtained are in accordance with what is expected or not (Chiu et al., 2014) and also the high uncertainty of product quality and the inability of consumers to evaluate products directly which results in decision making which is based more on speculation rather than the results of comprehensive consumer evaluations (Pappas, 2016).

Psychologically, consumers will try their best to minimise the risks that will be borne during purchasing transactions with sellers (Mortimer et al., 2020; Chang and Wang, 2018). Consumers will evaluate very carefully sellers in e-commerce in order to minimise the risks that will be borne (Belanche et al., 2012) and because of the many alternatives to choose from, the limitations of consumers in processing the amount of information available, and the high risk involved faced by consumers, consumers will rely more on feelings in making purchase decisions (Pilar et al., 2018).

Several previous studies have reported that consumers will be more withdrawn and not make purchase transactions with sellers or products that they consider to have a high risk (Rahman and Soesilo, 2018; Pappas, 2016). This indicates a close relationship between perceived risk and online purchase intention. Furthermore, Chiu et al. (2014)

reported a significant effect of perceived risk on purchase intention. Consumers with high-risk perceptions will reduce consumer intention to make purchases. Conversely, consumers with low perceived risk will be more likely to make consumers buy. Therefore, the hypothesis put forward is:

H2 The higher the perceived risk in e-commerce, the lower the purchase intention.

### *2.3 The moderating role of eWOM*

In making purchase transactions in e-commerce, it is very difficult for consumers to evaluate the products they want to buy. One of the fundamental indicators often used by consumers as a basis for evaluation is eWOM in e-commerce. eWOM in this study refers to information about personal experiences (good or bad experiences) from other users related to product or service performance and service quality from marketers written in the review column in e-commerce (Zhao et al., 2020). In line with this, Cheung and Thadani (2010) stated that eWOM communication is "any positive or negative statement made by potential, actual, and former customers about a product or a company via the Internet". Several scholars have agreed that eWOM is a crucial factor in e-commerce context that provides useful information for consumers to consider where consumers will make purchases (Baber et al., 2016; Pinochet et al., 2019; Liew and Falahat, 2019). In addition, eWOM is very important because it can influence consumers' views of a product or company both in the short and long term (Bone, 1995; Hirschfelder and Chigada, 2020) and also switching behaviour (Money, 2004).

Several studies have reported how eWOM affects consumer behaviour. A study from Chang and Wang (2019) reported that in online purchase transactions, eWOM is often used as a primary source of information and is considered more credible than information from advertisements from marketers because the information from eWOM can be in the form of negative or positive information. and the information provided is more factual because it comes from other users who have made a purchase and have no relationship with the marketer. In line with this, Cheung and Lee (2012) suggested that in evaluating, consumers are more likely to consider eWOM because the information from eWOM tends to be more accessible and available over a long period of time. In some cases, consumers who are not satisfied with product performance or marketers are more likely to spread eWOM than satisfied consumers (Anderson, 1998) and as an implication of this negative eWOM, consumers will be more likely not to make online purchase transactions because the negative eWOM will be connected by consumers with product quality and commitment from marketers (Kim et al., 2016).

In this study, eWOM functions as a moderator in the relationship between trust, perceived risk, and online purchase intention. eWOM can reduce consumer perceived risk and increase trust in influencing online purchase intention. Several previous studies have reported a significant association between eWOM and purchase intention. For example, research conducted by Tien et al. (2019) reported that before making a purchase, consumers will always consider information from other consumers who have made a purchase and write about their experiences on the internet. If the information shared is positive, consumers will be more likely to make purchases. Conversely,

consumers will withdraw from making purchases if the information obtained is negative information about the store or product. See-To and Ho (2014) also reported a relationship between eWOM and purchase intention. Consumers will use eWOM to determine how much they trust the seller and buy at that place. In other words, eWOM will trigger consumer intention to make purchases. Based on the previous explanation, the hypothesis proposed is:

H3 eWOM is able to moderate the relationship between trust and purchase intention

H4 eWOM is able to moderate the relationship between perceived risk and purchase intention

### **3 Methodology**

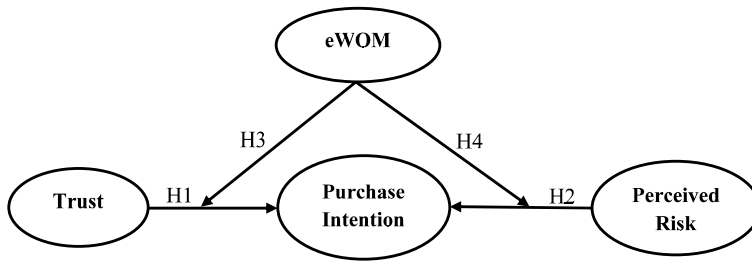
#### *3.1 Sample and data collection*

Indonesia is one of the countries with the largest e-commerce users in the world. Therefore, this research focuses on consumers of one of the largest e-commerce in Indonesia, namely Tokopedia. The research framework used in this study is shown in Figure 1. The source of the questionnaire items used was in English, therefore, conversion to Indonesian was needed first before being distributed to respondents. The questionnaire was designed into two parts. The first part contains questions about the demographic data of the respondents (gender, age, and education). Whereas the second part contains questions about the variables studied. The measurement scale used in this study is 5-Likert scales. A total of 130 questionnaires were distributed to respondents following previously established criteria. This is based on the views of experts that the number of representative samples for Partial Least Square Structural Equation Modelling (PLS-SEM) is the total reflective indicators multiplied by 10 (Hair et al., 2011), and therefore the number of reflective indicators in this study is 13 indicators, so the number of respondents used in this study can be said to have been adequate. Data from the distribution of questionnaires were then collected and analysed using the help of the SmartPLS application. From the data collected, it is known that 37% of respondents were male and 63% were female. Besides, 34% of respondents aged between 26 to 35 years, and 42% of respondents had bachelor degree education (see Table 2).

#### *3.2 Construct operationalisation and measurement*

Measurements for each construct in this study were adopted from several previous studies. Trust was measured using 3 items (Ponte et al., 2015), perceived risk was measured using 3 items (Pilar et al., 2018), eWOM was measured using 3 items (Rita et al., 2019), and purchase intention was measured using 4 items (Ponte et al., 2015) (see Table 1). The whole items were measured using a 5-Likert Scale.

**Figure 1** Research framework



**Table 1** Construct operationalisation

<i>Items</i>	<i>Author(s)</i>
Trust (TR)	
TR1 This e-commerce has integrity	Ponte et al. (2015)
TR2 This e-commerce is reliable	
TR3 This e-commerce is trustworthy	
Perceived Risk (PR)	
Whilst I was browsing this e-commerce, and due to its characteristics, I felt that...	
PR1 There is a high risk of loss if I purchase products through this e-commerce	Pilar et al. (2018)
PR2 There is a major risk involved in making a purchase via this e-commerce	
PR3 Making purchasing products via this e-commerce is risky	
eWOM (WOM)	
WOM1 I say positive things about this e-commerce to other people	Rita et al. (2019)
WOM2 I recommend this e-commerce to anyone who seeks my advice	
WOM3 I encourage friends and others to purchase products from this e-commerce	
Purchase Intention (PI)	
PI1 The probability that I would consider to purchase a product from this e-commerce is high	Ponte et al. (2015)
PI2 If I were to purchase a product, I would consider purchasing it from this e-commerce	
PI3 The likelihood of my purchasing a product from this e-commerce is high.	
PI4 My willingness to purchase a product from this e-commerce is high	



**Table 2** Demographic data of respondents

<i>Index</i>	<i>Frequency</i>	<i>Percentage (%)</i>
Gender		
Male	48	37
Female	82	63
Age (years)		
15 to 25	38	29
26 to 35	44	34
36 to 45	22	17
46 to 55	20	15
> 55	6	5
Education		
High school	35	27
Diploma	12	9
Bachelor degree	55	42
Master degree	24	19
Doctoral degree	4	3

## 4 Analysis and results

### 4.1 Measurement model

In this study, data analysis was performed using partial least square structural equation modelling (PLS-SEM). Evaluation of the measurement model is done by assessing reliability, convergent validity, discriminant validity. First, the reliability assessment is carried out with factor loadings, composite reliability, and Cronbach's alpha. As shown in Table 3, all items used in this study had loadings values greater than 0.70. In addition, the composite reliability and Cronbach's alpha values were also greater than 0.70 so it can be understood that all items used in this study have good internal consistency (Hair et al., 2011; Chen et al., 2017).

Second, the convergent validity assessment is done by evaluating the average variance extracted (AVE). As shown in Table 3, all items of the four reflective constructs used in this study had an AVE value greater than 0.50. Therefore, it is understandable that all items used in this study have met the criteria for convergent validity recommended by the experts (Hair et al., 2011).

Finally, the discriminant validity assessment was carried out by evaluating the Fornell-Larcker value, namely the correlation of the square root of the AVE with each construct variable. As shown in Table 4, the square root value of the AVE for each construct is greater than its correlation with the other construct variables. Thus, it can be concluded that the discriminant validity assessment complies with the rule of thumb recommended by the experts (Hair et al., 2011; Chen et al., 2017).

**Table 3** Results of the measurement model

<i>Variables</i>	<i>Items</i>	<i>Loadings</i>	<i>AVE</i>	<i>Cronbachs alpha</i>	<i>Composite reliability</i>
Trust	TR1	0.795	0.655	0.735	0.850
	TR2	0.851			
	TR3	0.781			
Perceived risk	PR1	0.722	0.633	0.707	0.837
	PR2	0.846			
	PR3	0.813			
eWOM	WOM1	0.892	0.763	0.845	0.906
	WOM2	0.830			
	WOM3	0.897			
Purchase intention	PI1	0.750	0.631	0.805	0.872
	PI2	0.773			
	PI3	0.854			
	PI4	0.797			

Note: AVE: average variance extracted.

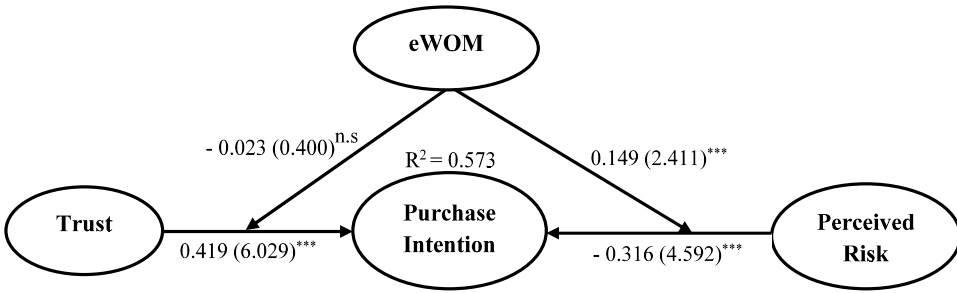
**Table 4** Results of Discriminant Validity (Fornell-Larcker Criterion)

<i>Variables</i>	<i>Trust</i>	<i>Perceived risk</i>	<i>eWOM</i>	<i>Purchase intention</i>	<i>Moderating1</i>	<i>Moderating2</i>
Trust	0.809	–	–	–	–	–
Perceived risk	-0.489	0.795	–	–	–	–
eWOM	0.341	-0.396	0.874	-	–	–
Purchase intention	0.639	-0.592	0.475	0.794	–	–
Moderating1	-0.215	0.006	-0.106	-0.216	1.000	–
Moderating2	0.007	-0.013	0.206	0.202	-0.557	1.000

## 4.2 Structural model

Evaluation of structural models is intended to assess the predictive ability of the model used. In this study, the evaluation of the structural model was carried out by assessing the coefficient of determination ( $R^2$ ), the effect size ( $f^2$ ), and path coefficients. The results show that the  $R^2$  value obtained is 0.572 (see Figure 2), which means that 57.2% of the purchase intention variable can be explained by trust, perceived risk, eWOM\*trust, and eWOM\*perceived risk. Thus, the predictive ability of the model used in this study is in the moderate category (Hair et al., 2011). The  $f^2$  was used to assess the relative impact of exogenous latent variables on endogenous latent variables through changes in  $R^2$  (Hair et al., 2012). The values of  $f^2$  0.02, 0.15, and 0.35 indicate small, medium, and large effects (Hair et al., 2014; Chen et al., 2017). The results of  $f^2$  indicate that most of the  $f^2$  values are in the medium category (see Table 5).

**Figure 2** Result of structural model analysis



**Note:** \*\*\* significant at  $p < 0.001$ ; (n.s): not significant

**Table 5** The  $f^2$  results

Path	$f^2$ values
Trust → Purchase intention	0.274
Perceived risk → Purchase intention	0.161
eWOM*Trust → Purchase intention	0.001
eWOM * perceived risk → Purchase intention	0.032

As shown in Table 6, three of the four hypotheses were supported. First, trust was found to have a positive and significant effect on purchase intention ( $\beta = 0.427, p < 0.05$ ), thus H1 is supported. Second, perceived risk was found to have a negative and significant effect on purchase intention ( $\beta = -0.322, p < 0.05$ ), thus H2 is also supported. Third, eWOM was found to be able to positively moderate the effect of perceived risk on purchase intention ( $\beta = 1.222, p < 0.05$ ), thus H4 is accepted. In contrast to this, the results of this study confirm that eWOM is unable to moderate the effect of trust on purchase intention ( $\beta = 0.018, p > 0.05$ ), thus H3 is rejected.

**Table 6** Hypothesis-testing results

Hypothesis	Path coefficient	T-statistics	P-value	Support
(H1) Trust → Purchase Intention	0.419***	6.029	0.000	Yes
(H2) Perceived risk → Purchase intention	-0.316***	4.592	0.000	Yes
(H3) eWOM * trust → Purchase intention	-0.023 n.s.	0.400	0.690	No
(H4) eWOM * perceived risk → Purchase intention	0.149**	2.411	0.016	Yes

**Note:** \*\*\* significant at  $p < 0.001$ ; significant at \*\*  $p < 0.05$ ; (n.s): not significant.

## 5 Discussion and conclusion

### 5.1 Theoretical implications

As with research in general, the results of this study have several theoretical implications. First, studies on e-commerce have been carried out previously by several scholars (Nisar and Prabhakar, 2017; Agmeke et al., 2019; Lim et al., 2016). However, there are still very

few studies on how the mechanisms of trust and perceived risk in the context of e-commerce with eWOM as the moderating variable. The empirical findings in this study confirm the existence of a positive and significant effect of trust on purchase intention (H1) which is also consistent with previous studies (Hong and Cha, 2013). Trust is a crucial factor, especially in the context of online purchase transactions where the transaction process is based on the impersonal nature of the internet infrastructure and consumers are not able to inspect the products being traded directly. In addition, the empirical findings in this study also confirm the existence of a negative and significant effect of risk perception on purchase intention (H2) which is also consistent with several previous studies (Rahman and Soesilo, 2018; Pappas, 2016). Psychologically, consumers will tend to avoid various kinds of risks that may be involved during purchasing transactions in e-commerce. The greater the risk that may be involved, the less likely it is for consumers to make a purchase transaction. Vice versa, consumers will be more confident to make a purchase transaction if the consumer has a low-risk perception. The findings in this study indicate that in the context of e-commerce, the level of trust can create consumer intentions to make purchases. Consumers must believe that sellers can be trusted before consumers make a purchase. This belief and trust are important factors that can strengthen consumer purchase intentions. In addition, consumers will always analyse the risks that will be obtained before and after making a purchase transaction. In the extreme, consumers will cancel their purchase intention if there is a big risk. Conversely, consumers will continue the purchase transaction process if the risks borne by consumers are small or even non-existent. Furthermore, the findings in this study indicate that trust is the variable with the greatest influence in influencing purchase intention compared to other variables. Thus, it can be understood that trust and perceived risk are factors that determine consumer purchase intentions in e-commerce context.

Second, the empirical findings in this study also confirm the significant moderating role of eWOM in strengthening the effect of risk perception on purchase intention (H4), which means that having a positive eWOM will minimise the risks faced by consumers so that it can trigger consumer purchase intention. Several previous studies have found that eWOM has a positive effect on purchase intention (Tien et al., 2019; See-To and Ho, 2014). Nonetheless, the findings in this study provide valuable additional insight into the important role of eWOM in moderating the relationship between trust and purchase intention. From the results of this study, the existence of a positive eWOM will reduce the risk borne by consumers, thereby strengthening consumer purchase intention. On the other hand, the existence of a negative eWOM will allow consumers to be exposed to greater risks when making a purchase transaction. Contrary to this, the results of this study confirm that the moderating effect of eWOM in explaining the effect of trust on purchase intention is not significant. (H3).

Overall, this study has succeeded in answering how the trust mechanism is in the e-commerce context and also how consumers minimise the risks that exist in e-commerce with information from eWOM. The empirical findings in this study indicate that consumers need to trust sellers and minimise the risks that arise to generate purchase intention. Furthermore, consumers can minimise risks with the help of eWOM communication. In other words, the existence of eWOM will further reduce the risk borne by consumers, thereby strengthening purchase intention.

## 5.2 *Practical implications*

Apart from having theoretical implications, this research also has implications in the practical field, combined with several previous studies, for marketers and e-retailers in e-commerce. First, the findings in this study have shown that trust and risk perception can significantly influence purchase intention. Consumers who have a high level of trust with low perceived risk will be more likely to make purchases. Conversely, consumers with a low level of trust and high-risk perceptions, both to the seller and to the product being sold, will be more likely to discourage their purchase. Therefore, the results of this study suggest that increasing trust and reducing the risk borne by consumers are important factors that sellers in e-commerce need to pay attention to increase consumer purchase intention. To support these efforts, sellers in e-commerce can increase interactivity and reliability in order to increase confidence and trust in sellers and also provide convenience for consumers during the purchase transaction process in e-commerce (Sembada and Koay, 2019). In addition, sellers in e-commerce are also advised to improve reputation through improving service quality and response speed to consumers, which is one effective way to increase consumer trust and reduced risk perception (Shao et al., 2019). Furthermore, empirical findings in this study have also shown that trust is the factor that has the greatest influence in increasing consumer purchase intentions so that more attention is needed to increase consumer trust in obtaining both short and long-term benefits.

Second, sellers in e-commerce need to pay more attention to eWOM communication considering the findings in this study indicate that eWOM is an important factor that can reduce consumer perceptions of existing risks. The existence of a positive eWOM will reduce consumer risk perceptions so as to increase consumer purchase intention. Therefore, sellers in e-commerce must focus on managing eWOM communications and implementing appropriate marketing strategies in reducing consumer risk perceptions and increasing consumer purchase intention. Furthermore, considering the findings of this study have shown the important role of eWOM in moderating the relationship between perceived risk and purchase intention, sellers in e-commerce are also advised to formulate appropriate strategies to respond to negative eWOM. This is very useful considering that consumers tend to pay attention to which eWOM is more dominant in e-commerce (Kim et al., 2016). The more dominant negative eWOM will result in higher consumer risk perceptions which in turn will trigger consumers not to make purchase transactions, and vice versa. Overall, the results of this paper can be used by every marketer and e-retailer who has an interest in e-commerce to understand how consumers trust the marketers in e-commerce and how consumers minimise existing risks and how the role of eWOM in reducing risk perceptions to increase consumer purchase intention.

## 6 **Limitations and future research**

Although we have tried our best to do our best, it cannot be denied that there are still limitations in this study. First, this study is limited to the use of eWOM as a moderating variable in the relationship between trust, perceived risk, and purchase intention. Nonetheless, it is possible that consumer behaviour is influenced by many factors and one other important factor is the consumer online purchasing experience. Therefore, it is highly recommended for further study to consider these factors in explaining the

relationship between trust, perceived risk, and purchase intention. Second, this research is only done by using cross-sectional design so as to obtain better results in accordance with changes in e-commerce environment is recommended for further research to develop this research with longitudinal design. Finally, this study only focuses on one e-commerce company without any specific specifications such as B2B, B2C, or the like, so it is hoped that further research will use two or three companies or e-commerce characteristics (for example, B2B, B2C, and so on) to produce a comparative study that can provide more comprehensive insights into consumer behaviour in e-commerce.

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