

WHAT AFFECTS CUSTOMER'S INTENTION TO WRITE AN ONLINE REVIEW?

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ABSTRACT

Technology affects almost every sector and has also transformed the way people do business. Increasing internet penetration is one of the drivers of digital transformation in Indonesia. Along with the increase in internet users, there is a shift from conventional to digital sales. One of the most popular online sales media today is e-marketplace. The wide choice of products and sellers in the e-marketplace, makes the role of product reviews as decision support in the process of buying products online. But in reality, not all consumers write reviews on every product they have purchased. Whereas the latest reviews from buyers can help sellers to increase sales and face increasingly fierce competition in e-marketplace. Therefore, this study examines the factors that can influence consumers' intentions to write online reviews. The data was collected through an online questionnaire and obtained from 218 respondents. The results of data processing using SMARTPLS show that E-marketplace Service Quality, Customer Satisfaction, and Customer Engagement have a significant effect on the intention to write online reviews.

Keywords: *Online Reviews, E-commerce, E-marketplace Service Quality, Customer Engagement, Customer Satisfaction*

1. INTRODUCTION

Internet penetration in Indonesia has reached 73.7% of the population [1], a large number of internet users is driving digital transformation in Indonesia. The shift from conventional trading to digital has made the growth of e-commerce in Indonesia move rapidly. E-commerce transactions in 2017 were recorded at IDR 42.2 trillion to reach IDR 266 trillion in 2020. Other things that affect the rapid growth of e-commerce include the development of fin-tech and alternative payments, the impact of COVID-19, and the increasing number of smartphone users in Indonesia [2], [3].

Currently, the most popular e-commerce in Indonesia is e-marketplace. Based on monthly web visits in the second quarter of 2021, the most widely used e-marketplace platforms by Indonesians include Tokopedia, Shopee, Bukalapak, Lazada, and Blibli. Tokopedia ranks first with an average visitor of 147,790,000 [4]. This ranking is constantly changing due to competition between e-marketplace platform providers to dominate the

market. A large number of users on the e-marketplace can be an opportunity for businesses to increase sales and reach more buyers.

In the e-marketplace system, consumers have a lot of options when it comes to shopping. There are various product categories being sold. However, one of the most popular product categories in e-commerce and a favorite among all consumers has always been fashion [5]. E-marketplaces also have a large number of sellers, allowing customers to compare products from different sellers. In the process of buying products online, buyers have several considerations as decision support.

Based on data from [6], up to 75% of respondents considered price to be the most important factor when purchasing products online. Besides pricing considerations, product review is also important references for consumers before buying products online. Almost 95% of buyers will read reviews before making a product purchase. And 65% of consumers say they need 5-10 reviews to make a buying decision [7]. Product reviews can be important information for other potential buyers and

influence their purchasing decisions. Information from product reviews can be in the form of a review of the product itself, seller response, delivery speed, and recommendations [8]. This information is needed especially in buying expensive products or to avoid risks [9]. Reviews can also help sellers increase their business sales, especially when it comes to new product launches [10]. Initial reviews have a huge impact, with the first five reviews driving a 270% greater likelihood of a purchase compared to a product without a review [9].

To learn about the habits of Indonesian consumers when it comes to writing reviews, a preliminary study was carried out by distributing online questionnaires via Google Forms. According to the collected data from 57 respondents, 94.7% of those who shopped at e-marketplaces claimed to have written product reviews. Figure 1 shows the reasons consumers write product reviews: 75.9% said they were satisfied with the product, 70.4% said they wanted to help other consumers, and 59.3% said they were satisfied with the seller's service.

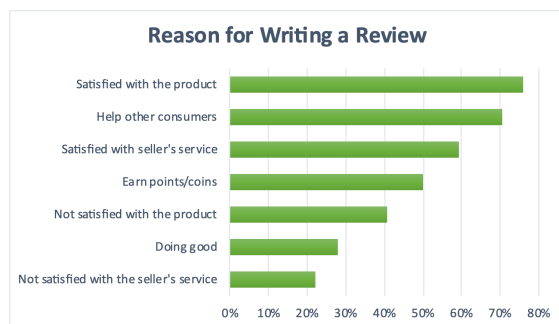


Figure 1: Reasons for Consumers to Write Reviews

Meanwhile, 57% of respondents who have written product reviews admit that they do not always write reviews on every product they have purchased. The main reason is that they are too lazy to do it. Some respondents stated that they are too lazy to type their comments. The second most common reason is that they forget to write a review because they must try the product. Other reasons include the product already having a large number of reviews or high ratings, as shown in Figure 2.



Figure 2: Reasons for Not Always Writing Reviews

Preliminary research indicates that more than half of respondents do not always leave product reviews. This is a challenge for businesses because of the importance of product reviews in online sales. Recent reviews have become essential to provide more opportunities to stand out among existing competitors. [11]. In a recent survey, BrightLocal discovered that 86% of consumers only saw reviews from the last three months [12].

According to Thakur, the role of mobile shopping applications can be an important tool that can motivate customers to keep coming back and increase customers' intention to leave reviews [13]. However, there has been little research into what factors can increase a customer's intention to write a review. So, this study aimed to address the following research questions:

1. What are the factors that influence customer's intention to write reviews on the e-marketplace platform?
2. How does each factor from the most influential to the least influential on customer's intention to write reviews?

The purpose of this study is to determine the factors that influence customer's intention in writing reviews on the e-marketplace platform. This result of this research is expected to being a reference for sellers who sell on e-marketplaces to be able to develop strategies in inviting their customers to contribute to writing reviews. And also, as a consideration for e-marketplace application providers in encouraging customers who have purchased products to write reviews.

2. LITERATURE REVIEW

2.1 E-marketplace

According to [14], the notion of E-Commerce can be defined as the use of electronic means and technology to conduct trade (sales, purchases, transfers, or exchanges of products, services, or information) that can be carried out in various types of E-Commerce, namely business to business, business to consumers and delivery of goods or services can be done without using the internet. E-marketplace is a subset of e-commerce. In the electronic marketplaces there is a matching of customers and suppliers, an establishing of the transaction terms, and the facilitation of exchange transactions [15]. E-marketplaces have three main functions, namely: are:

1. Bringing buyers and sellers together.
2. Facilitate the exchange of information, goods, services, and payments related to market transactions.
3. Provide institutional infrastructure, such as legal and regulatory frameworks that enable the efficient functioning of markets.

2.2 E-Service Quality

Electronic Service Quality or E-Service Quality is the extent to which a platform can provide effective and efficient buying and selling services to product delivery. The quality of electronic services includes not only the experience during the interaction but also the post-interaction service. Therefore, businesses can focus on every stage, from the navigation process to post-transaction operations. [16] suggested that companies that provide higher quality electronic services are more likely to satisfy their customers, which in turn will affect their commitment to purchase and repurchase intentions.

2.3 Online Review Intention

Online review, a form of electronic word-of-mouth (e-WOM), has received significant attention from academia and industry because of its potential to drive consumer purchase intentions [17]; [18] and affect to sales [19]. Electronic word-of-mouth (e-WOM) is defined as "any positive or negative statement made by a potential, current or former customer about a product or company, which is made available to many people and institutions via the Internet" [20]. Consumer reviews include customer experiences with product quality, seller service, to ratings regarding product delivery. Consumer reviews are proven to play a

role in supporting consumer purchasing decisions and increasing product sales [21].

2.4 Customer Satisfaction

User Satisfaction is not a component of the success of the system, but a consequence of the success of the system [22]. According to [23], satisfaction is a feeling that results from the benefits that users expect when interacting with e-commerce systems. According to [24], in the context of e-commerce, consumer satisfaction in online purchases includes satisfaction with the perceived usefulness of using information technology. According to [25], it is very important to assess consumer satisfaction, especially for high-tech products and services. This is because customer satisfaction can have an important impact, both positive and negative, in getting new customers. Consumer satisfaction affects the consumer's decision to continue the purchase or not. Product characteristics, such as quality, ease of use, attractiveness, aesthetics and value for money must exceed consumer expectations for the products offered.

2.5 Customer Engagement

Customer Engagement (CE) is a personal relationship with a brand as manifested in cognitive, affective, and behavioral responses outside of purchase [26]. According to So et al. (2014) participation in CE activities does not necessarily mean CE with a brand, this is in order to broaden the concept of CE [27]. Customer engagement is an emotional state of mind with an object (brand or media) that leads to frequent customer interactions with that object [13]. [28] that engagement stems from the customer's experience in a certain way that can be driven by the customer's motivation to interact with the object can be medium/service/brand. Customer engagement can leads posting likes and reviews, [28]–[30]. So, the definition of Customer Engagement in this study is Customer Engagement is a customer relationship with an object that is manifested in cognitive, affective, and behavioral responses that lead to frequent interactions with the object.

2.6 Previous Research

Thakur research was about the role of customer engagement in online review intention [13] as a mediating variable between customer satisfaction and online review intention, and also mediating between customer trust and online review intention. The results of this study were

customer satisfaction, trust, and customer engagement had a statistically significant impact on online review intention.

The research [31] discussed analyzing the effect of online service quality on e-commerce websites on customer satisfaction and purchase intention. This study identified the dimensions of e-service quality, namely website design, reliability, responsiveness, trustworthiness, and personalization. The results showed that trust was the only dimension of e-service quality that had a significant effect on overall service quality. The relationship between e-service quality and customer satisfaction as well as customer satisfaction and purchase intention were found to be statistically significant.

Research [32] discussed the relationship between online consumer behavior and dividing groups online consumers. The variables used to measure e-commerce service quality include ease of use, reliability, reactivity, security, customer care, customer trust. The results showed that Ease of use, Reliability, Responsiveness, Security, and Customer trust had a significant influence on Behavioral Intention.

3. RESEARCH METHODOLOGY

3.1 Research Model

This study discusses the factors that influence the willingness of customers to provide online reviews. Variables, dimensions and indicators are taken from various previous studies and will be analyzed into research models. The theories used as research references are:

a. E-marketplace Service Quality and Customer Satisfaction

The research of [31] examines the effect of Overall Service Quality on Customer Satisfaction which has a significant effect. The Overall Service Quality variable has several dimensions consisting of 5 dimensions including Website design, Reliability, Responsiveness, Trust, Personalization. In this case, the author compares these dimensions with other studies, namely the E-commerce Service Quality dimension from [32] which consists of Ease of use, Reliability, Responsiveness, Security, Customer care, and Customer trust. After making a comparison, the authors analyze the dimensions that can be applied in this study related to online reviews on e-marketplaces. The five variable dimensions selected for the E-marketplace Service Quality include Ease of use,

Reliability, Responsiveness, Security, and Customer care.

b. Customer Satisfaction and Online Review Intention

Thakur's research [13] examines the effect of Customer Satisfaction on Online Review Intention where the results of this study indicate a significant influence of the Customer Satisfaction variable on Online Review Intention. In this study, the Customer Satisfaction studied is the satisfaction of the seller. However, in this study, the context of customer satisfaction that will be studied is satisfaction with product review features. The author hypothesizes that if customers are satisfied with the product review features used, it can lead to an online review intention.

c. Customer Engagement and Online Review Intention

In addition to examining the influence of Customer Satisfaction on Online Review Intention, Thakur [13] also examines the effect of Customer Engagement on the seller's online store application on Online Review Intention. The results of his research indicate that there is a significant influence of Customer Engagement on Online Review Intention. Therefore, the author will examine the effect of Customer Engagement on product reviews on the intention to write reviews. The author hypothesizes that when a customer has engagement with a product review, it will lead to an intention to write a product review.

Furthermore, for the measurement of Customer Engagement used, it will adopt several dimensions from Thakur's research which uses 6 dimensions, including Money Evaluation, Utilitarian, Time Filler, Intrinsic Enjoyment, Self-Connect and Social Facilitation. The author analyzed each dimension in accordance with the proposed research context, in the end obtain 4 dimensions, namely Money Evaluation, Utilitarian, Time Filler and Intrinsic Enjoyment.

d. Customer Satisfaction and Customer Engagement

This study also examines the effect of Customer Satisfaction on Customer Engagement as researched by [13]. The author will also examine the mediating role of

Customer Satisfaction and Customer Engagement in Online Review Intention.

The proposed research model can be seen in Figure 3. There are 4 latent variables namely E-marketplace Service Quality, Customer Satisfaction on Review Feature, Customer Engagement on Product Review and Online Review Intention. Variables CS and CE will be the mediator between the ESQ variables on ORI.

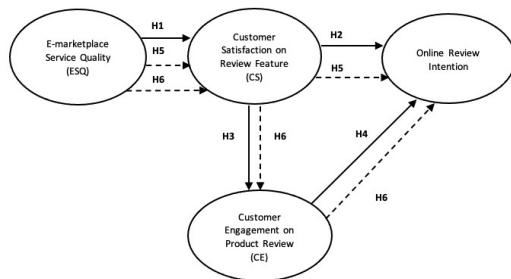


Figure 3: The Proposed Research Model

3.2 Hypotheses

According to [33] the hypothesis is a temporary answer given to the research problem formulation using a statement sentence. The hypothesis is not based on facts, so it is still only a theoretical answer. In this study, hypothesis testing will be conducted to determine a significant relationship between one variable and another.

- H1** E-marketplace Service Quality (ESQ) has a significant effect on Customer Satisfaction (CS)
- H2** Customer Satisfaction (CS) has a significant effect on Online Review Intention (ORI)
- H3** Customer Satisfaction (CS) has a significant effect on Customer Engagement (CE)
- H4** Customer Engagement (CE) has a significant effect on Online Review Intention (ORI)
- H5** E-marketplace Service Quality (ESQ) has a significant effect on Online Review Intention (ORI) mediated by Customer Satisfaction (CS)
- H6** E-marketplace Service Quality (ESQ) has a significant effect on Online Review Intention (ORI) mediated by Customer Satisfaction (CS) and Customer Engagement (CE)

3.3 Variable Measurement

In this section, the measurements for each research variable will be explained. The constructs in this study were observable, so that the constructs

studied were valid. Measurement of variables using multidimensional and indicators. The definition of variables and their measurements can be seen as follows.

3.3.1 E-marketplace service quality

E-marketplace Service Quality (ESQ) is the quality of e-marketplace services that can make it easier for users to write product reviews effectively and efficiently. ESQ is measured from 5 dimensions, namely Ease of Use, Reliability, Responsiveness, Customer Care, and Security. The understanding of each dimension in the e-marketplace service quality can be explained as follows. Ease of use is the use of product review features with minimal effort. Reliability is the ability of product review features to run as expected. Responsiveness is the ability of product review features to provide fast and efficient service. Security is the ability of the product review feature to ensure the security of information and the confidentiality of personal privacy. Customer care is the ability of the product review feature to meet customer needs in writing product reviews.

3.3.2 Customer engagement

The definition of Customer Engagement in Product Review (CE) is consumer responses (cognitive, affective, and behavioral) to product review features. The dimensions for CE are Intrinsic Enjoyment, Time Filler, Money Evaluation and Utilitarian. The definition of Customer Engagement dimensions in the context of this research are: Intrinsic Enjoyment is the pleasure and happiness that consumers feel from product reviews. Time Filler is an activity to pass the time with product reviews. Utilitarian is an activity to seek help or information from other consumers on product reviews. Money Evaluation is a consumer's assessment of financial-related offerings from product reviews.

3.3.3 Customer satisfaction

Customer Satisfaction in Review Feature (CS) is a condition where product review features can meet consumer expectations.

3.3.4 Online review intention

Online Review Intention (ORI) is a consumer's intention to write a positive or negative statement about a product in a shopping application.

Table 1: Variable Measurement

Variable	Dimension	Code	Indicator	Reference
E-marketplace Service Quality (ESQ)	Ease of use (EOU)	EOU1	Ease of effort	[34], [35]
		EOU2	Ease of understanding	
		EOU3	Easy to find	
	Reliability (RA)	RA1	Right review	[32]
		RA2	Keeping promises	
		RA3	Reviews can be changed	
	Responsiveness (RS)	RS1	Processing speed	[31], [36], [37]
		RS2	Fast service	
		RS3	Up-to-date information	
	Security (SE)	SE1	Personal privacy protected	[36], [38], [39]
		SE2	Sense of security	
		SE3	Safe information	
		SE4	Account name can be hidden	
	Customer Care (CC)	CC1	Guide availability	[40]
		CC2	Hotline availability	
		CC3	FAQ availability	
Customer Engagement in Product Review (CE)	Intrinsic Enjoyment (IE)	IE1	Enjoy using the app	[13]
		IE2	Improve mood	
		IE3	Relax	
	Time Filler (TF)	TF1	Use during breaks	
		TF2	Use when have free time	
		TF3	Use when bored	
	Utilitarian (UT)	UT1	Good product information	
		UT2	Decision support	
		UT3	Helpful review	
	Money Evaluation (ME)	ME1	Money saving	
		ME2	Great offer	
		ME3	Limited offer	
Customer Satisfaction (CS)		CS1	Satisfaction	[34], [41]
		CS2	Enjoyment	
		CS3	Long term use	
Online Review Intention (ORI)		ORI1	Tend to write review	[42], [13], [41]
		ORI2	Planning to write a review	
		ORI3	Taking the time to write review	

3.4 Population & Sample

The population of this study is the Indonesian people who are internet users who use shopping applications on smartphones. The total internet users in Indonesia who use smartphones are 178.6 million, while for internet users who use shopping applications on smartphones is 78.2% [1]. So that the total population of smartphone users who use shopping applications in Indonesia is 139.6 million people.

According to [43] which can be used as a guideline in determining the sample size in SEM analysis, i.e. the sample size must be 100 or greater. The number of samples is at least 5 times more than the number of items to be analyzed. In this study there are 34 indicators so that the minimum number of samples required in this study is $34 \times 5 = 170$ samples. The target respondents are e-marketplace users who have purchased fashion products through shopping applications on smartphones, where

fashion is the most popular product on e-marketplaces [5]. The e-marketplaces studied are the top five e-marketplaces in Indonesia, namely Shopee, Tokopedia, Bukalapak, Lazada and Blibli.

3.5 Method

3.5.1 Data Collection

The method of collecting data from primary sources using a survey. The sampling data technique used random sampling. Online questionnaires using Google Forms were distributed through several social media such as Facebook, Instagram, LinkedIn, WhatsApp, and Telegram. The questionnaire consists of three parts which include demographics, experiences in using the e-marketplace platform, and items about research instrument. Items were using a 7-point Likert scale from strongly disagree (1) to strongly agree (7). As for secondary data, it was collected

from references in books, journals, and articles that related to this research.

3.5.2 Data Processing and Analysis

In this study, the processing of the data collected through the questionnaire will be processed with the SMARTPLS version 3. Analysis of the relationship between variables using SEM-PLS which includes Partial Least Square (PLS) and Structural Equation Modeling (SEM) models.

3.6 Model Measurement

To measure the research model, this study used the disjoint two-stage approach. According to [44], for the measurement specifications of the reflective-reflective type model, namely Internal Consistency, Convergent Validity and Discriminant Validity. As for the measurement of the structural model can use Coefficients of determination (R^2), Predictive Relevance (Q^2), Path Coefficients, F^2 effect.

In general, the larger the loading value, the more reliable the measurement model will be. The loading factor value determined in this study was 0.70 as a criterion for the minimum measurement [45]. While the recommended Average Variance Extracted (AVE) value must be 0.5 or higher. Composite reliability with a value between 0.70 and 0.90 can be considered satisfactory [43]. For discriminant validity using Fornell-Larcker Criterion, the square root of AVE must be higher than its correlation with other latent variables [45]. The guideline used for f-square effect is that a value of 0.02 has a small effect, a value of 0.15 has a moderate effect, and a value of 0.35 has a large effect. An effect value of less than 0.02 indicates that it has no effect. In the structural model, a Q^2 value greater than zero for certain reflective endogenous latent variables indicates the predictive relevance of the path model for certain dependent constructs [43].

4. RESULTS AND DISCUSSIONS

4.1 Demographic

The data for this study were collected from the results of distributing questionnaires online via Google Form. Questionnaire questions include demographics, experience using e-marketplaces, and 34 research questions. The number of respondents who successfully met the specified minimum sample criteria were 218 respondents.

Table 2: Characteristics of Respondents

Item	Characteristic	Frequency	Percentage
Gender	Female	135	61,93%
	Male	83	38,07%
Age	Under 17 years	1	0,46%
	17 - 26 years	172	78,90%
	27 - 36 years	33	15,14%
	37 - 46 years	9	4,13%
	47 - 56 years	2	0,92%
	Above 56 years	1	0,46%
Occupation	Student	127	58,26%
	Businessman	11	5,05%
	Housewife	15	6,88%
	Employee	55	25,23%
	Civil Servants	2	0,92%
	Unemployment	8	3,67%
Shopping App Usage Time	Less than 1 year	10	4,59%
	1-2 years	55	25,23%
	2-3 years	71	32,57%
	More than 3 years	82	37,61%
	Shopee	156	76,61%
Fashion Shopping App	Lazada	11	6,42%
	Tokopedia	48	16,06%
	Blibli	1	0,46%
	Bukalapak	2	0,46%
	Under 250k	120	55,05%
Fashion Monthly Spending	250 k - 500 k	67	30,73%
	500 k - 750 k	21	9,63%
	750 k - 1 million	4	1,83%
	Above 1 million	6	2,75%

Based on Table 2, the characteristics of the respondents in this study amounting to 61.93% are women. The highest age range is 17-26 years old with 58.26% of the respondents being students. Based on the length of use of shopping applications, 37.61% have used it for more than 3 years. The most used shopping application for fashion products is Shopee at 76.61% with the most monthly spending for fashion products, which is under IDR 250,000.

4.2 Outer Model Measurement

4.2.1 Convergent Validity Test

For the first order construct test, there are indicators that have a value less than 0.7. These indicators include RE3 (0.612), SE4 (0.615), TF3 (0.583), and ORI2 (0.479). Therefore, the four indicators were excluded from the research model.

Table 3: Validity Test

Variable	Code	Loading Factor	Cronbach's Alpha	Composite Reliability	AVE
Customer Care (CC)	CC1	0,823	0,784	0,874	0,699
	CC2	0,869			
	CC3	0,815			
Ease of Use (EOU)	EOU1	0,744	0,737	0,852	0,659
	EOU2	0,890			
	EOU3	0,794			
Intrinsic Enjoyment (IE)	IE1	0,810	0,83	0,899	0,748
	IE2	0,894			
	IE3	0,888			
Money Evaluation (ME)	ME1	0,769	0,749	0,852	0,658
	ME2	0,831			
	ME3	0,833			
Reliability (RE)	RE1	0,884	0,62	0,839	0,723
	RE2	0,815			
Responsiveness (RP)	RP1	0,787	0,616	0,795	0,564
	RP2	0,700			
	RP3	0,763			
Security (SE)	SE1	0,867	0,817	0,892	0,733
	SE2	0,875			
	SE3	0,825			
Time Filler (TF)	TF1	0,938	0,862	0,935	0,879
	TF2	0,937			
Utilitarian (UT)	UT1	0,826	0,84	0,904	0,758
	UT2	0,899			
	UT3	0,885			
Customer Engagement (CE)	CE1 (IE)	0,865	0,646	0,806	0,583
	CE3 (TF)	0,727			
	CE4 (UT)	0,688			
Customer Satisfaction (CS)	CS1	0,897	0,885	0,929	0,812
	CS2	0,903			
	CS3	0,904			
E-marketplace Service Quality (ESQ)	ESQ1 (CC)	0,734	0,843	0,889	0,616
	ESQ2 (EOU)	0,759			
	ESQ3 (RE)	0,739			
	ESQ4 (RP)	0,842			
	ESQ5 (SE)	0,843			
Online Review Intention (ORI)	ORI1	0,801	0,664	0,851	0,742
	ORI3	0,917			

The calculation results on the second order show that there are 3 indicators of Customer Engagement which have a loading factor value below 0.7, namely CE2 (0.451), CE3 (0.684), and CE4 (0.658). The Composite Reliability value is 0.767 and the AVE is 0.463. According to [43], indicators with loading factors 0.40 - 0.70 can be removed if increasing AVE. Therefore CE2 (ME) or Money Evaluation is removed from the model because it has the smallest loading factor.

After eliminating the CE2 (ME) indicator, the AVE value of Customer Engagement has met the minimum, namely $0.583 > 0.5$. For the CE4 indicator (UT) which has a loading factor of 0.688, it is not removed because it is close to 0.7 and according to [46] the loading factor value above 0.5 with a sample size of 200 is acceptable.

4.2.2 Discriminant Validity Test

The Fornell-Lareker criterion for first order construct as follows: Customer Care (0.836),

Customer Satisfaction (0.901), Ease of Use (0.812), Intrinsic Enjoyment (0.865), Money Evaluation (0.811), Online Review Intention (0.862), Reliability (0.850), Responsiveness (0.751), Security (0.856), Time Filler (0.937), Utilitarian (0.871). Each variable of first order construct has met the requirements because it has a higher correlation value than the other variables. As for the second order construct discriminant validity for Fornell-Larcker are Customer Engagement (0.764), Customer Satisfaction (0.901), E-marketplace Service Quality (0.785), and Online Review Intention (0.861) which also met the requirements.

4.3 Inner Model Measurement

4.3.1 R-square

The R square adjusted for Customer Engagement (CE) is 0.488, which means 48.8% of the CE variable can be explained by the Intrinsic Enjoyment (IE), Time Filler (TF) and Utilitarian (UT) variables. As much as 51.2% of the CE variable can be explained by variables other than IE, TF, and UT. For Customer Satisfaction (CS) is 0.368 or 36.8%, which means that the CS variable can be explained by the indicator and 63.2% of the CS variable can be explained by other indicators. The Online Review Intention (ORI) variable has an R square adjusted value of 0.293, which means 29.3% of the ORI variable can be explained by the indicator and 70.7% of the ORI variable can be explained by other indicators.

4.3.2 F-square effect

The f square result shows that the 0.065 value of Customer Engagement on Online Review Intention has a small effect. Customer Satisfaction has a 0.063 influence on Online Review Intention, which is a small effect. Meanwhile, the effects of Customer Satisfaction on Customer Engagement and E-marketplace Service Quality on Customer Satisfaction are 0.962 and 0.59, respectively, indicating that both factors have a large effect.

4.3.3 Q-square

Customer Engagement, Customer Satisfaction, and Online Review Intention each have a value of 0.266, 0.294, and 0.202, indicating that they can be used to predict outcomes.

4.3.4 Hypotheses Test

Hypothesis testing is done by performing bootstrapping calculations on SMARTPLS using 500 sub samples (default) with a significance level (p-value) of 5%.

Table 4: Hypotheses Test

	Coefficient	Sample Mean	T Statistics	P Values
H1	0,609	0,610	12,141	0,000
H2	0,294	0,287	2,917	0,004
H3	0,700	0,705	18,541	0,000
H4	0,299	0,312	3,332	0,001
H5	0,179	0,175	2,808	0,005
H6	0,128	0,135	2,942	0,003

H1: E-marketplace Service Quality (ESQ) has a significant effect on Customer Satisfaction (CS)

The value of t statistic = 12,141 has a value greater than 1.96 which means that ESQ has an effect on CS. The resulting p-value is 0.000, which means that the influence of ESQ on CS is significant. The coefficient value shows 0.609, indicating that ESQ has a positive effect on CS. So, the results of testing hypothesis 1 can be supported because ESQ has a significant positive effect on CS.

H2: Customer Satisfaction (CS) has a significant effect on Online Review Intention (ORI)

The value of t statistic = 2,917 has a value greater than 1.96 which means that CS has an effect on ORI. The resulting p-value is 0.004, which means that the influence of CS on ORI is significant. The coefficient value shows 0.294, indicating that CS has a positive effect on ORI. So that the results of testing hypothesis 2 can be supported because CS has a significant positive effect on ORI.

H3: Customer Satisfaction (CS) has a significant effect on Customer Engagement (CE)

The value of t statistic = 18.541 has a value greater than 1.96 which means that CS has an effect on CE. The resulting p-value is 0.000, which means that the influence of CS on CE is significant. The coefficient value shows 0.7, indicating that CS has a positive effect on CE. So, the results of testing hypothesis 3 can be supported because CS has a significant positive effect on CE.

H4: Customer Engagement (CE) has a significant effect on Online Review Intention (ORI)

The value of t statistic = 3.332 has a value greater than 1.96 which means that CE has an effect on ORI. The resulting p-value is 0.001, which means that the influence of CE on ORI is significant. The coefficient value shows 0.299, indicating that CE has a positive effect on ORI. So, the results of

testing hypothesis 4 can be supported because CE has a significant positive effect on ORI.

H5: E-marketplace Service Quality (ESQ) has a significant effect on Online Review Intention (ORI) mediated by Customer Satisfaction (CS)

The value of t statistic = 2.808 has a value greater than 1.96 which means that ESQ has an effect on ORI mediated by CS. The resulting p-value is 0.005, which means that the effect of ESQ on ORI mediated by CS is significant. The coefficient value shows 0.179, indicating that the effect of ESQ on ORI mediated by CS is a positive influence. So the results of testing hypothesis 5 can be supported because ESQ on ORI mediated by CS has a significant positive effect.

H6: E-marketplace Service Quality (ESQ) has a significant effect on Online Review Intention (ORI) mediated by Customer Satisfaction (CS) and Customer Engagement (CE)

The value of t statistic = 2,942 has a value greater than 1.96 which means that ESQ has an effect on ORI mediated by CS and CE. The resulting p-value is 0.003, which means that the effect of ESQ on ORI mediated by CS and CE is significant. The coefficient value shows 0.128, indicating that the effect of ESQ on ORI mediated by CS and CE is a positive influence. So, the results of testing hypothesis 5 can be accepted because ESQ on ORI mediated by CS and CE has a significant positive effect.

Based on all the hypotheses test results that have been described, then from the 6 hypotheses contained in this study, all research hypotheses are supported.

4.3.5 Indirect Effects Analysis

Customer Satisfaction (CS) has a direct influence on Online Review Intention (ORI) with t statistics 3,182 and p-values 0.002. Then there is a direct effect of E-marketplace Service Quality (ESQ) on ORI which has a significant influence, so that further research can examine the effect of ESQ on ORI without mediation from CS. Another interesting finding is that there is an effect of ESQ on Customer Engagement (CE) which also has a significant influence, which can be explored further. The role of mediating variable CS on ESQ and ORI is partial. Furthermore, the mediating role for CS and CE variables on ESQ to ORI, is also partial effect because ESQ can affect ORI in the absence of a mediating variable.

4.4 Priority Factor

The next stage is to determine the level of influence each variable has on the customer's intention to write an online review. Customer Satisfaction with the Product Review Feature is the main factor that has the greatest influence on customer's online review intention (9.453), followed by E-marketplace Service Quality (6.921) and the last is Customer Engagement on Product Reviews (3.435).

4.5 Discussion

There are several things that can be a priority for e-marketplace application providers to increase customer's intention in writing reviews. This study found that Customer Engagement has an influence on the intention to write reviews. One of the dimensions of Customer Engagement is Utilitarian. E-marketplace application providers need to show useful reviews in order to improve the quality of product information in supporting purchasing decisions. Information obtained from product reviews plays a role in increasing customer intention to write reviews, because it becomes a motivation to be able to help other customers who need information related to the product being reviewed. This result support previous study where Customer Engagement has a significant influence on customer's intention to write online reviews [13], and add to the literature on the role of customer engagement in intention to write online reviews.

The results of this study also validate that E-marketplace Service Quality has an influence on customer satisfaction [31], [40], [47], where customers who are satisfied with the review feature tend to have the intention to write online reviews [48]. The results also show that there is a direct impact of E-marketplace Service Quality on customer's intention to write reviews, which makes a theoretical contribution to the online review intention research area. One of the dimensions of E-marketplace Service Quality that affects the intention to write reviews is Ease of Use. Ease of Use can be measured by the effort expended to write a review, the ease of finding the review menu, and the ease of understanding the review feature.

Currently, e-marketplace applications such as Tokopedia, Shopee, Lazada, Bukalapak and Blibli have different product review menu placements. In the Lazada and Blibli applications, the product review menu can be found easily by users because it will be visible every time they open the Account Menu. Slightly different on the Bukalapak application, the product review menu is

placed at the bottom of the Account Menu which users are likely to miss. The product review menu on the Shopee application can be accessed from My Menu which is quite easy to find. While in the Tokopedia application, the product review menu can be accessed from the Inbox Menu, where the placement of the review menu is quite hidden. This can make customers forget the existence of the product review menu.

In writing product review, some customers tend to cancel writing a review if they find it difficult or require more effort to do so. E-marketplace application providers need to prioritize a simpler review writing process, so that it can increase customer's intention to write reviews. Below is a table that describes some of the product review features in the e-marketplace application. It is important for e-marketplace application providers to pay more attention to the features that guide and make it easier for customers to write informative product reviews.

Figure 4: Product Review Feature on E-marketplace

Feature	Lazada	Bibli	Bukalapak	Tokopedia	Shopee
Comment	✓	✓	✓	✓	✓
Comment Template	×	×	✓	×	✓
Photo	✓	✓	✓	✓	✓
Video	✓	×	×	×	✓
Reward	✓	✓	✓	×	✓
Product Rating	✓	✓	✓	✓	✓
Seller Rating	✓	×	×	×	✓
Shipment Rating	✓	×	×	×	✓
Anonymous	✓	✓	✓	✓	✓

There are several managerial implications that can be beneficial for e-marketplace application providers. First, e-marketplace application providers can organize product reviews based on time, because the latest reviews are more reliable by potential buyers. Second, existing product review data can be processed using the latest technology such as machine learning to be able to find patterns in product reviews. E-marketplace application providers can group product reviews based on positive and negative comments, which are then displayed to all potential buyers. This can help potential buyers to see a balanced product perspective from the advantages and disadvantages of the product. And the product reviews can also be classified based on reviews on shipment, seller service, or product. So that the e-marketplace application provider can display a product review that best describes the product.

5. CONCLUSION

The purpose of this study was to determine whether E-Marketplace Service Quality, Customer Satisfaction, and Customer Engagement can influence customer's intention to write reviews. From the results of data processing using SMARTPLS, all hypotheses in this study were accepted. Customer Engagement is proven to have an influence on customer's intention to write reviews. This implies that e-marketplace application providers should display helpful reviews from other customers so that the information they received for decision-making might serve as a motivation to help others by writing product reviews. To display helpful product reviews, e-marketplace application providers can leverage product review datasets by using machine learning and classify reviews in a balanced perspective on product advantages and disadvantages.

Furthermore, E-marketplace Service Quality has been shown to have a significant impact on customers' intention to write reviews. The ease of writing reviews provided by e-marketplace applications is the primary factor in increasing customers' intention to write reviews. So, depending on the amount of effect of the factors listed above, Customer Satisfaction on product review feature has the most influence, followed by E-marketplace Service Quality, and Customer Engagement. The findings of this research support previous research and contributes to the literature on online review intention, which has been very few studies about it.

The suggestions that can be given based on the results of this study are as follows.

- The e-marketplace application can make it easier to write product reviews by providing a quick review widget on the main application page as a form of reminder for consumers to fill out reviews.
- E-marketplace applications can display useful reviews sorted by time. Product reviews that have exceeded a certain time limit (e.g., 2 years) may be removed from the product review for potential buyers.
- The e-marketplace application can limit the number of reviews displayed for too many product reviews, even though it has not exceeded a certain time limit (e.g., 2 years) by removing them from the product review for potential buyers.
- The e-marketplace application can analyze product reviews based on the type of comment (positive/negative).

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