Analysis of Factors That Can Affect Customer Retention of E-Commerce

Users

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Abstract

This study aims to analyze factors that can affect customer retention of e-commerce users, in this

study, the scope of research objects set by researchers in accordance with the problems to be

studied is about the factors that affect customer retention of application users to use the application.

This type of research is quantitative, the population in this study is the use of the Shopee

application in Indonesia, the number of samples used in this study is 300 respondents with criteria,

Active users of Shopee online applications / websites in Indonesia, Users who are over 17 years

old and have made purchases at least 3 times. The data analysis technique used in this study is

Structural Equation Modeling (SEM) based on Partial Least Square (PLS) which is processed with

the help of Amos 26 software. Structural Equation Modeling (SEM) is a data analysis technique

that tests the integration of factor analysis, structural models, and path analysis for a causal

relationship.

Keywords: E-Commerce, Shopee and Customer Retention

1. Introduction

The rapid development of internet technology has penetrated various aspects of life, including business and commerce. Technological advancements have shown significant improvements from year to year. Similarly, internet users in Indonesia have been increasing in line with advancements in information technology. The development of the internet has become a new trend and will continue to evolve. The internet is not only a medium for seeking and exchanging information but also a continuously evolving medium through innovations that are applied in daily life. The advancements in internet technology have caused changes in consumer lifestyles. The internet has transformed the way business is conducted, as sellers can now offer a variety of products and services to consumers worldwide at any time (Lim et al., 2010). One of the biggest changes that people have started to adopt is in their purchasing behavior, where online shopping has now become an alternative to conventional shopping (Wang et al., 2006).

The internet significantly benefits business actors by providing ease in the processes of marketing, selling, and purchasing, which can be done anytime and anywhere. The increasing number of internet users has a substantial impact on businesses that utilize the internet. According to the latest report by Hootsuite and We Are Social, the number of internet users in Indonesia reached 202.6 million as of January 2021. Compared to the number of internet users in 2020, there was a 15.5% increase, or more than 27 million people, in the last 12 months. According to Hootsuite and We Are Social, the total population of Indonesia is 274.9 million. With 202.6 million internet users, it means that 73.7% of Indonesians are already engaged in surfing the internet.



Figure 1. Internet usage in Indonesia in 2021

The growth of the internet has also changed the lifestyle of Indonesian society, particularly in shopping habits. Online shopping is more preferred than traditional shopping. The level of online shopping in Indonesia is the highest compared to other countries in Southeast Asia. Indonesia has also been recognized as the largest and fastest-growing e-commerce market in Southeast Asia. This trend provides significant opportunities for e-commerce companies. One of the e-commerce companies that seized this opportunity and eventually gained substantial profits is Shopee.

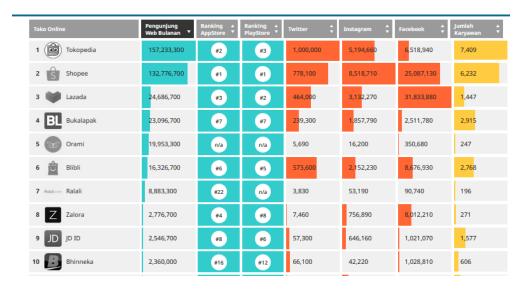


Figure 2. App ranking downloads

Shopee is one of the leading e-commerce companies in Indonesia, ranking first in downloads on the Playstore and Appstore. According to a national survey conducted by the Indonesian Internet Service Providers Association (APJII), Shopee is the most widely used and popular e-commerce platform in Indonesia, followed by Tokopedia, Bukalapak, and Lazada. The intense competition in e-commerce drives Shopee to continuously innovate to retain existing customers. According to Murphy (Puspita et al., 2018), customer retention management becomes increasingly important as the market becomes saturated and highly competitive. Many companies realize that the cost of attracting a new customer can be five times higher than the cost of retaining an existing customer. According to Kotler and Keller (2013) in Hardjanti & Amalia (2014), offensive marketing (searching for new customers) is usually much more expensive than defensive

marketing (retaining existing customers), as more effort and cost are required to persuade satisfied customers to switch from their current service providers.

Retaining customers is also one of the principles implemented by Shopee. One of the strategies consistently pursued by Shopee since 2016 is managing customer loyalty programs, starting with the Shopee Coin loyalty program. Shopee's loyalty programs have been considered successful because they have received positive responses from users, leading to increased transactions. During the Big Ramadhan Sale in 2018, Shopee received up to 465 million visits during Ramadhan. Besides the increase in visits, transactions on Shopee also significantly increased from the beginning of Ramadhan to the peak of the Big Ramadhan Sale. Shopee even recorded 1.5 million transactions in 24 hours, setting a new record for e-commerce in Indonesia (ekonomi.kompas.com).

Shopee is a prime example of a successful e-commerce company that has effectively capitalized on the booming e-commerce market in Indonesia. This success is attributed to Shopee's effective strategies in managing e-commerce, one of which is customer retention. According to Schiffman et al. (2010), customer retention is defined as the tendency of future customers to remain with a service provider. Kotler (2002: 55) defines customer retention as the level of customer loyalty to a product as a result of customer satisfaction. Indicators used to measure customer retention, according to Japarianto (2018), include: (1) repeat purchases; (2) average order size; (3) purchase of multiple products or services; and (4) referrals to buyers in other departments or outside companies.

2. Literature Review

2.1 Perceived Value

Perceived value, according to Kotler and Keller (2009), is the difference between consumers' evaluation of all the benefits and all the costs of an offering and perceived alternatives. This affects brand identification because consumers will recognize brand they deem valuable. According to Zhou et al. (2017), perceived value is the overall assessment of the utility of a product by customers based on their perception of what is received and what is given. Therefore, perceived value is the overall consumer assessment of a product's usefulness, which significantly impacts the seller's revenue.

2.2 Service Quality

Service quality is defined as the extent to which the level of service provided meets customer expectations. According to Kotler and Keller (2012), service quality is a concept related to meeting or exceeding customer expectations. They further state that customers are likely to maintain relationships with service providers if they receive premium quality service. According to Fandy Tjiptono and Chandra (2016), service quality focuses on fulfilling customer needs and wants and delivering services accurately to match customer expectations. Wyock (in Lovelock 1988), cited by Tjiptono and Chandra (2016), defines service quality as the expected level of excellence and the control of that excellence to meet customer needs. Tjiptono (2011) also emphasizes that service quality involves fulfilling customer needs and wants and delivering services accurately to meet customer expectations. Based on the theories and opinions mentioned above, it can be concluded that service quality encompasses all activities undertaken by an organization to meet consumer expectations.

2.3 Perceived Ease of Use

According to Jogiyanto (2008), perceived ease of use is defined as the extent to which an individual believes that using technology will be free of effort. If an individual perceives that an information medium is easy to use, they will use it; conversely, if they find it difficult, they will not use it. According to Adams, Nelson, and Todd (1992), the intensity of use and the interaction between users and the system also indicate ease of use. A system that is used more frequently indicates that it is easier to understand, operate, and use. Based on this definition, the ease of use of a computer depends on an individual's belief that the computer is easy to understand and the system used is easy to understand, operate, and use. Lee & Wan (2010) explain several indicators of perceived ease of use, including: information technology is very easy to learn, easy to become skilled in its use, and very easy to operate. Based on the experts' opinions, it can be concluded that perceived ease of use is a way to facilitate individuals in using a system.

2.4 Customer Satisfaction

According to Trisnawati, Assegaff, and Rohaini (2019), customer satisfaction is defined as a post-purchase evaluation where the perception of the performance of the chosen product or service meets or exceeds expectations, resulting in satisfaction. Swan and Trawick (1979) define satisfaction as a conscious evaluation or cognitive judgment of the product's performance, whether it is relatively good or bad, or whether it is suitable or not. Churchill Jr and Surprenant (1982)

define customer satisfaction more broadly, both conceptually and operationally. Conceptually, customer satisfaction is the result of a purchase and consumption that compares rewards and costs with anticipated consequences. Operationally, satisfaction is similar to an attitude where the assessment is based on various attributes.

2.5 Trust

Trust is the foundation of business transactions between two or more parties that will occur if they trust each other. Trust cannot be immediately recognized by the other party or business partner but must be built from the beginning and proven. Trust is considered a catalyst in various transactions between sellers and buyers to achieve consumer satisfaction as expected (Yousafzai, Pallister, and Foxall, 2003). Trust is defined as the customer's belief in the company's promises that are reliable and are the basic reason for establishing a relationship with the company (Massari and Passiante, 2006). Gurviez and Korchia (2003) state that trust is an assurance that the partner is motivated not to switch to another party in the context of exchange.

2.6. Customer Retention

Customer retention is a company's strategic goal to pursue long-term relationships with customers. According to Moenardy, Arifin, and Kumadji (2016), customer retention is defined as the intention of customers to repeat the purchase of services from a service provider (Morgan and Hunt, 1994). Kassim and Souiden (2007) define customer retention as the future tendency of customers to remain loyal to their service provider. Keiningham et al. (2007) define customer retention as the continued relationship of customers with the company. Stauss et al. (1999) provide a more comprehensive definition of customer retention, including customer loyalty, customer identification, customer commitment, customer trust, customer willingness to recommend, and customer intention to repeat purchases. The first is an emotional construct, while the second is a behavioral intention.

3. Material and Method

3.1 The scope of research

This research focuses on the factors affecting customer retention among users of an application, specifically the Shopee marketplace application. The subjects of the research are the users of the Shopee application, while the object of the research is the Shopee application itself. The research will be conducted over one semester.

3.2 Population

The population refers to the entire group of people, events, or interesting elements that the researcher wants to investigate. In this research, the population is the users of the Shopee application in Indonesia.

3.3 Sample

A sample is a part of a population, consisting of selected members from that population. By studying the sample, researchers can draw conclusions that can be generalized to the population of interest. The role of sample size is crucial in all statistical analyses. The more sophisticated the statistical analysis, the larger the sample needed. Therefore, the required sample size in this research depends on the model or development method being considered. Structural equation modeling (SEM) requires a sample size of at least 300 to ensure robust modeling, and very complex path models also need a sample size of 300. The most commonly used estimation method is Maximum Likelihood (ML), which assumes multivariate normal data and a reasonable sample size of about 300 observations. Simulation studies have shown that a reasonable sample size for a well-specified model and multivariate normal data is 300 cases (Hox and Bechger, 1998).

To determine the sample size, previous research using the AMOS software application was reviewed. Based on this review, the sample size for this study is set at 300 respondents with the following criteria:

- 1. Active users of the Shopee online shopping application/website in Indonesia.
- 2. Users aged over 17 years.
- 3. Users who have made at least three purchases.

3.4 Research Model

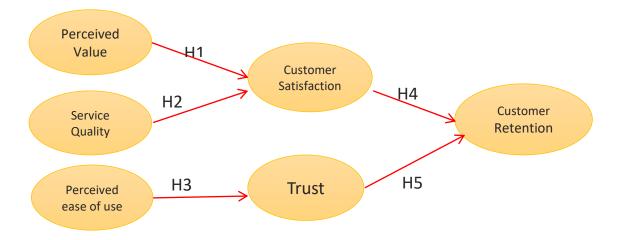


Figure 3. Research Model

4. Result

4.1 Unit Description Analysis

Tabel 4.1 Descriptive Statistics of Respondent Demographics

Description		Frequency	Present
Gender	Male	87	29%
	Female	213	74%
Ages	15 - 30 years old	200	66,7%
	31 - 40 years old	24	8%
	41 - 50 years old	46	15,3%
	≥ 50 years old	30	10%
Education	SMA	37	12,3%
	Diploma	34	11,3
	Sarjana	202	67,3%
	Magister	27	9%
Employment	Working	224	74,7%
	Unemployed	11	3,7%
	Retired	32	10,7%
	Owns a Business	33	11%

Source: Data that researchers have analyzed (2024)

4.2 Test of Validity

The validity test of the instrument in this study was conducted using SPSS version 26, where the testing was performed by examining the corrected item-total correlation (r calculated) of each question item. In this test, a statement item is considered valid if the r calculated is significant and its value exceeds the r table value. Based on the R table, the r table value for a sample of 30 respondents ($\alpha = 5\%$) is 0.361. Therefore, in this test, a question item is considered valid if the r calculated is significant and its value exceeds 0.361.

Tabel 4.2 Test of Validity

Variable	Item	Sig,	r cCunt	r Table	Critera
Trust	TR1	0,7	0,881	0,361	Valid
	TR2	0,7	0,938	0,361	Valid
	TR3	0,7	0,928	0,361	Valid
	TR4	0,7	0,9	0,361	Valid
	TR5	0,7	0,884	0,361	Valid

	TR6	0,7	0,877	0,361	Valid
	CS1	0,7	0,899	0,361	Valid
	CS2	0,7	0,911	0,361	Valid
Customer	CS3	0,7	0,895	0,361	Valid
satisfaction	CS4	0,7	0,948	0,361	Valid
	CS5	0,7	0,922	0,361	Valid
	CS6	0,7	0,904	0,361	Valid
	PEOU1	0,7	0,874	0,361	Valid
D : 1	PEOU2	0,7	0,918	0,361	Valid
Perceived ease of use	PEOU3	0,7	0,91	0,361	Valid
	PEOU4	0,7	0,924	0,361	Valid
	PEOU5	0,7	0,891	0,361	Valid
	SQ1	0,7	0,893	0,361	Valid
	SQ2	0,7	0,955	0,361	Valid
Service quality	SQ3	0,7	0,907	0,361	Valid
	SQ4	0,7	0,93	0,361	Valid
-	SQ5	0,7	0,88	0,361	Valid
	SQ6	0,7	0,819	0,361	Valid
	PV1	0,7	0,851	0,361	Valid
D . 1	PV2	0,7	0,887	0,361	Valid
Perceived - value	PV3	0,7	0,928	0,361	Valid
	PV4	0,7	0,945	0,361	Valid
-	PV5	0,7	0,949	0,361	Valid
	CR1	0,7	0,965	0,361	Valid
	CR2	0,7	0,908	0,361	Valid
Customer	CR3	0,7	0,91	0,361	Valid
retention	CR4	0,7	0,959	0,361	Valid
	CR5	0,7	0,96	0,361	Valid
	CR6	0,7	0,941	0,361	Valid

Source: Data that researchers have analyzed (2024)

The *trust* variable was measured with 6 question items, and the analysis results in table 4.1 show that all question items are valid, meaning all question items are valid in measuring the trust variable because they have an r calculated value greater than the r table value. Next, the customer satisfaction variable was measured with 6 question items, and the analysis results in the table show that all question items are valid, meaning all question items are valid in measuring the customer satisfaction variable. Then, the perceived ease of use variable was measured with 5 question items, and the analysis results in the table show that all question items are valid, meaning all question items are valid in measuring the perceived ease of use variable. The service quality variable was measured with 6 question items, and the analysis results in the table show that all question items are valid, meaning all question items are valid in measuring the service quality variable. Next, the perceived value variable was measured with 5 question items, and the analysis results in the table show that all question items are valid, meaning all question items are valid in measuring the perceived value variable. Lastly, the customer retention variable was measured with 6 question items, and the analysis results in the table show that all question items are valid, meaning all question items are valid

4.3 Test of Reliability

After all the statement items were declared valid, the testing proceeded to the reliability test. The reliability test used was Cronbach's Alpha reliability test, where the instrument is considered reliable if the Cronbach's Alpha value is > 0.7 (Ghozali; 2018). The reliability test results for each instrument can be seen in the following table:

Table 4.3 Test of Reliability

Variable	Total Item Valid	Cronbachs Alpha	Cut Value	Reliability
Trust	6	0,970	0,7	Reliable
Customer satisfaction	6	0,973	0,7	Reliable
Perceived ease of use	5	0,963	0,7	Reliable
Service quality	6	0,968	0,7	Reliable
Perceived value	5	0,968	0,7	Reliable
Customer retention	6	0,982	0,7	Reliable

Source: Data that researchers have analyzed (2024)

Based on the analysis results in Table 4.2, the Cronbach's Alpha value for the trust variable instrument is 0.970 with 6 valid question items, the Cronbach's Alpha value for the customer satisfaction variable instrument is 0.973 with 6 valid question items, the Cronbach's Alpha value for the perceived ease of use variable instrument is 0.963 with 5 valid question items, the Cronbach's Alpha value for the service quality variable instrument is 0.968 with 6 valid question items, the Cronbach's Alpha value for the perceived value variable instrument is 0.968 with 5 valid question items, and the Cronbach's Alpha value for the customer retention variable instrument is 0.982 with 6 valid question items. Since the Cronbach's Alpha value of all instruments is > 0.7, all the research variable instruments are declared reliable.

4.4 The Structural Model Analysis

In this study, the testing of the influence between variables will be conducted using the SEM analysis technique. The selection of SEM as the hypothesis testing tool is due to the research model containing mediating (intervening) variables, a sufficiently large sample size (>100), and all research variables being latent variables measured with several measurement indicators.

According to Hair et al. (2000), the stages in SEM analysis include the measurement model testing stage (Confirmatory Factor Analysis) and the structural model testing stage. In the measurement model testing stage, construct validity and reliability are measured, while in the structural model testing stage, the influence between variables is tested, which is subsequently used to test the research hypotheses.

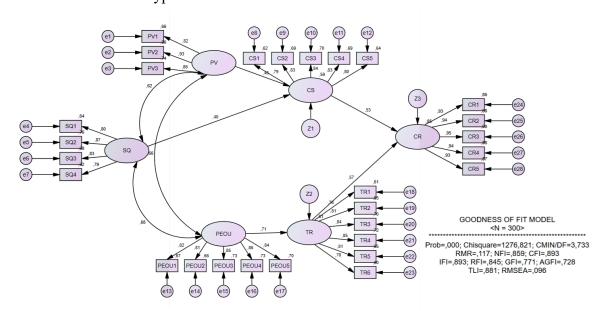


Figure 4.4.1 SEM Model Estimation Results

The estimation results of the SEM model in the figure above indicate that the SEM model does not yet meet the required goodness of fit criteria, particularly given that the cmin/df value is >2.00 and the rmsea value is >0.08. This means that the sample covariance matrix is not yet the same as the population covariance matrix. Therefore, model modification is necessary by connecting the error terms of the indicators as suggested by the AMOS program in the modification indices table. Below are the results of the model modification:

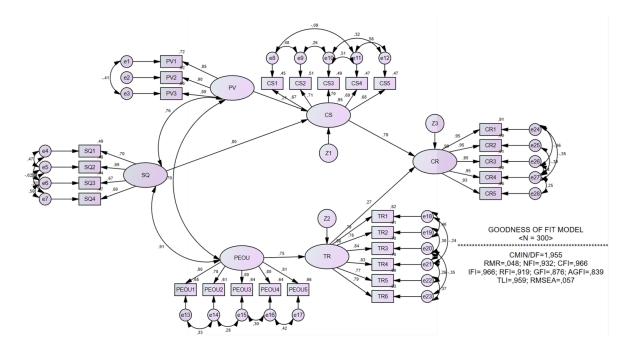


Figure 4.4.2 SEM model estimation results after modification

Based on the estimation results of the second structural model after model modification, the estimation results in Figure 4.5 indicate that the SEM model has met the required goodness of fit criteria. The cmin/df value is now below 2.00, and the RMSEA value is less than 0.08, which means that the sample covariance matrix is now the same as the population covariance matrix. Therefore, the estimation results with a sample of 300 can be confirmed to represent the actual Shopee customer population.

In addition to the chi-square probability, the goodness of fit criteria are also met for the parameters CMIN/DF, NFI, CFI, IFI, RFI, and TLI (all falling into the good fit category), while other parameters fall within the marginal fit criteria. Based on the overall goodness of fit test results, here is a summary of the goodness of fit test results for the SEM model estimated in this study:

 Table 4.4.1 Initial Model CMIN Output for CFA Analysis

Goodness of fit index	Cut of Value	Hasil	Model Evaluation
Absolut fit measure			
· Sig / probability Chi2	≥ 0,05	0,055	Good Fit
· GFI	≥ 0,90	0,966	Marginal Fit
· RMSEA	≤ 0,08	0,057	Good Fit
· RMR	< 0,05	0,048	Marginal Fit
· CMIN/DF	<2,00	1,955	Good Fit
Incremental Fi Measure			
· AGFI	≥ 0,90	0,839	Marginal Fit
· TLI	≥ 0,90	0,959	Good Fit
· CFI	> 0,90	0,990	Good Fit
· IFI	≥ 0,90	0,966	Good Fit
· RFI	≥ 0,95	0,919	Good Fit
Persimonius Fit Measure			
· PNFI	Bigger the better	0,806	Good Fit
· PGFI	Bigger the better	0,700	Good Fit

Source: Data that researchers have analyzed (2024)

4.5 The Hypothesis Analysis

Based on the results of the analysis in this study, the following hypothesis testing results were obtained:

Table 4.5.1 Hypothesis Test Result

No	Hypothesis	Analysis Result	Conclusion
1	Perceived value has a positive effect on customer satisfaction	 P Value 1 tail = 0,011 CR = 2,535 Path Coef = 0,211 	Significant
2	Service quality has a positive effect on customer satisfaction	 P value 1 tail = *** CR = 7,294 Path Coef = 0,803 	Significant
3	Perceived ease of use has a positive effect on trust	 P value 1 tail = *** CR = 11,087 Path Coef = 0,746 	Significant

4	Customer satisfaction has a positive effect on customer retention		P value 1 tail = *** CR = 11,842 Path Coef = 0,788	Significant
5	Trust has a positive effect on customer retention	•	P value 1 tail = *** CR = 6,588 Path Coef = 0,274	Significant

Source: Data that researchers have analyzed (2024)

The explanation of the hypothesis testing results is as follows:

Hypothesis 1 in this study states that perceived value has a positive and significant effect on customer satisfaction. The analysis results show that the p-value of the effect of perceived value on customer satisfaction is 0.011, the CR is 2.535, and the path coefficient is positive at 0.213. Since the p-value is < 0.05, CR is > 1.96, and the path coefficient is positive, the hypothesis is accepted, and it can be concluded that perceived value affects customer satisfaction.

Hypothesis 2 in this study states that service quality has a positive and significant effect on customer satisfaction. The analysis results show that the p-value of the effect of service quality on customer satisfaction is ***, the CR is 7.294, and the path coefficient is positive at 0.803. Since the p-value is < 0.05, CR is > 1.96, and the path coefficient is positive, the hypothesis is accepted, and it can be concluded that service quality affects customer satisfaction.

Hypothesis 3 in this study states that perceived ease of use has a positive and significant effect on trust. The analysis results show that the p-value of the effect of perceived ease of use on trust is ***, the CR is 11.087, and the path coefficient is positive at 0.746. Since the p-value is < 0.05, CR is > 1.96, and the path coefficient is positive, the hypothesis is accepted, and it can be concluded that perceived ease of use affects trust.

Hypothesis 4 in this study states that customer satisfaction has a positive and significant effect on customer retention. The analysis results show that the p-value of the effect of customer satisfaction on customer retention is ***, the CR is 11.842, and the path coefficient is positive at 0.788. Since the p-value is < 0.05, CR is > 1.96, and the path coefficient is positive, the hypothesis is accepted, and it can be concluded that customer satisfaction affects customer retention.

Hypothesis 5 in this study states that trust has a positive and significant effect on customer retention. The analysis results show that the p-value of the effect of trust on customer retention is ***, the CR is 6.588, and the path coefficient is positive at 0.247. Since the p-value is < 0.05, CR

is > 1.96, and the path coefficient is positive, the hypothesis is accepted, and it can be concluded that trust affects customer retention.

5. Discussion

The study shows a significant effect of perceived value on customer satisfaction, implying that higher perceived value leads to higher customer satisfaction. Improvements in perceived value can enhance customer satisfaction, particularly by offering attractive product/service costs, more free services, and economical pricing.

The study indicates a significant effect of service quality on customer satisfaction. Enhancing service quality can improve customer satisfaction, focusing on satisfaction with Shopee, ease of using the app, and honesty about offers.

The study finds a significant effect of perceived ease of use on trust. Enhancing the ease of using Shopee and finding information can boost trust.

There is a significant effect of customer satisfaction on customer retention. Improving customer satisfaction, especially by enhancing user enjoyment and the creative and exploratory aspects of Shopee, can increase customer retention.

The study indicates a significant effect of trust on customer retention. Enhancing trust, especially by improving product/service comments, fulfillment of promises, and treatment of stakeholders, can boost customer retention.

6. Conclusion, Implication, and Recommendation

The results of this study indicate that:

- 1. Perceived value has a positive and significant effect on customer satisfaction. The higher the perceived value, the higher the customer satisfaction, and vice versa.
- 2. Service quality has a positive and significant effect on customer satisfaction. The higher the service quality, the higher the customer satisfaction, and vice versa.
- 3. Perceived ease of use has a positive and significant effect on trust. The higher the perceived ease of use, the higher the trust, and vice versa.
- 4. Customer satisfaction has a positive and significant effect on customer retention. The higher the customer satisfaction, the higher the customer retention, and vice versa.

- 5. Trust has a positive and significant effect on customer retention. The higher the trust, the higher the customer retention, and vice versa.
 - Based on the conclusions above, the following recommendations can be made:
- 1. Trust is good, but there is still room for improvement in product/service comments on Shopee, its ability to fulfill its promises, and how Shopee treats stakeholders.
- 2. Customer satisfaction is good, but improvements are needed in the areas of user happiness with the decision to use the Shopee app, the app's ability to inspire creative ideas, and the exploration experience on Shopee.
- 3. Perceived ease of use is good, but there is a need to enhance the ease of using Shopee and finding information about Shopee.
- 4. Service quality is good, but improvements are needed in satisfaction with Shopee, ease of using the Shopee app to find what is needed, and honesty about offers on the Shopee app.
- 5. Perceived value is good, but there is a need to enhance the attractiveness of Shopee's product/service costs, provide more free services, and offer more economical product and service prices.
- 6. Customer retention in the company is good, but improvements are needed in the decision to use the Shopee app, satisfaction with using the Shopee app, and the options for exploring the Shopee app.

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