

The Influence of Customer Service, Fulfilment, Security, on Repurchase Intention with Customer Satisfaction as Moderator E-Commerce Platform

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Abstract.

The rapid growth of e-commerce has intensified competition among platforms to retain customers, making service quality increasingly important in creating positive shopping experiences and encouraging repurchase. This study is motivated by the need for further examination of Customer Service, Fulfilment, and Security or Privacy simultaneously among Shopee customers in Indonesia, with Customer Satisfaction as a moderating variable. This study aims to analyze the effects of Customer Service, Fulfilment, and Security or Privacy on Repurchase Intention and to examine the role of Customer Satisfaction in moderating these relationships among Generation Z Shopee customers in West Jakarta. A quantitative approach with a causal research design was employed through a survey of 200 respondents selected using purposive sampling. Data was analyzed using Partial Least Squares-Structural Equation Modeling (PLS-SEM) with Smart-PLS. The results indicate that Customer Service, Fulfilment, and Security/Privacy have positive and significant effects on Repurchase Intention. Customer Satisfaction also positively and significantly moderates the effects of the three variables on Repurchase Intention. Customer Satisfaction has the strongest direct effect on Repurchase Intention. This study contributes to Shopee by providing insights into improving service quality, particularly Fulfilment accuracy, Customer Service responsiveness, and security and privacy protection. Shopee is advised to continuously improve these aspects to enhance customers' Repurchase Intention sustainably.

Keywords: *customer satisfaction, customer service, fulfilment, repurchase intention and security.*

I. INTRODUCTION

The advancement of digital technology has brought about significant changes in business activities and customer behavior, particularly through the growth of electronic commerce (*e-commerce*), which enables companies to provide faster, easier, and more flexible transaction services [1]. Accordingly, the development of *e-commerce* has encouraged companies to improve their electronic service quality (*e-service quality*), one dimension of which is *customer service*. This dimension reflects the ability of *e-commerce* platforms to provide prompt responses, appropriate solutions, and effective assistance to customers during and after the transaction process [2]. The increasing reliance of society on digital technology has encouraged *e-commerce* companies to continuously innovate to enhance user experiences and meet increasingly diverse consumer needs [3].

The global growth of *e-commerce* has also been driven by increasing internet usage and changing consumer preferences toward purchasing processes that are more convenient and efficient [4]. These developments have intensified competition within the *e-commerce* industry, requiring companies to focus not only on prices and products but also on the quality of services provided to customers [5].

In an increasingly competitive digital environment, the ability of companies to create positive service experiences has therefore become an important factor in maintaining long-term relationships with consumers [6]. Shopee has developed into one of the leading *e-commerce* platforms in Indonesia, driven by the growth in its user base and the increasing volume of transactions [7]. Shopee has experienced significant growth within the Indonesian *e-commerce* industry, as reflected in its high level of usage among the public. As many as 53.22% of internet users in Indonesia selected Shopee as the most frequently visited online shopping platform [8].

This indicates that although Shopee is one of the largest *e-commerce* platforms in Indonesia, the quality of digital services remains an important aspect that needs to be improved to meet customer expectations and strengthen the company's competitive advantage [9]. The rapid development of *e-commerce* has also been influenced by the contribution of Generation Z as a group of digital consumers who have grown alongside technological advancements. This generation demonstrates a high level of digital platform usage and actively utilizes *e-commerce* to search for product information and make online purchases [10].

The high level of *e-commerce* platform usage among Generation Z highlights the importance of

service quality as an aspect that companies need to prioritize. Responsive customer service is important in e-commerce because it can increase customer satisfaction and encourage repurchase intention [11]. Fulfilment is also an important component because timely delivery and the condition of orders can improve customer convenience and encourage repeat purchases [6], [12].

Furthermore, security/privacy is essential for providing a sense of security during transactions, reducing consumer concerns, and increasing repurchase intention [13], [14], [15]. Customer satisfaction is important because it reflects the platform's ability to meet customer expectations and can encourage repurchase intention [16], [17]. Overall, repurchase intention is important for the sustainability and competitiveness of e-commerce because it indicates customers' tendency to make repeat transactions on the same platform [18]. Previous studies have also shown that customer service, fulfilment, security/privacy, and customer satisfaction are associated with repurchase intention, indicating that these factors warrant further examination in the context of e-commerce platforms. Although research on e-service quality and repurchase intention has been widely conducted, there are still research gaps that need to be further examined.

Previous studies have examined the effects of customer service, fulfilment, and security/privacy on repurchase intention among e-commerce consumers in Malaysia, with gender as a moderating variable. However, these studies have not specifically examined these three dimensions on the Shopee e-commerce platform in Indonesia and have not used customer satisfaction as a moderating variable.

In addition, differences in consumer characteristics, technology adoption levels, and online shopping behavior between Malaysia and Indonesia may lead to different research findings, indicating the need for further research among Shopee users in Indonesia. This study aims to analyze and examine the effects of *customer service*, *fulfilment*, and *security/privacy* on *repurchase intention* among Generation Z consumers who make repeat purchases through the Shopee e-commerce platform in West Jakarta, as well as to investigate the role of *customer satisfaction* as a moderating variable in these relationships. More specifically, this study seeks to determine the extent to which customer service quality, order fulfilment accuracy, and security and privacy protection in Shopee e-commerce transactions influence customers' intention to make repeat purchases.

In addition, this study aims to analyze whether the level of customer satisfaction can strengthen or weaken the effects of customer service, fulfilment, and security/privacy on repurchase intentions. Thus, this study is expected to provide empirical contributions to understanding customers repurchase behavior on the Shopee e-commerce platform, particularly among Generation Z consumers in West Jakarta.

II. METHODS

This study employs a quantitative approach with a causal research design and a survey method through the distribution of online questionnaires. Each variable is measured using several indicators adapted from previous studies that have been tested for validity and reliability. All statements are measured using a 4-point Likert scale, with response categories ranging from 1 (Strongly Disagree) to 4 (Strongly Agree).

The *customer service* variable is measured using four statements adopted from [5]. The *fulfilment* variable is measured using four statements adopted from [5]. The *security/privacy* variable is measured using four statements adopted from [5]. The *customer satisfaction* variable is measured using four statements adopted from [19]. Furthermore, the *repurchase intention* variable is measured using four statements adopted from [20]. The population in this study consists of Generation Z who are active customers of the Shopee e-commerce platform. The sample was selected using a non-probability sampling technique with a purposive sampling method.

The respondent criteria were Generation Z aged 17–29 years, active customers of the Shopee e-commerce platform, residing in West Jakarta, and having made at least one repeat purchase through the Shopee e-commerce platform within the past two months. The sample size was determined based on the recommendation of [21], which states that SEM-PLS requires a minimum of 100 respondents. With a total of 20 indicators, the ideal sample size was 200 respondents, calculated as 20×10 , while the minimum threshold of 100 respondents was still considered sufficient for SEM-PLS analysis.

Before the main data collection process was conducted, the researcher carried out a pre-test involving 30 respondents who met the criteria of the study population. The data were collected through Google Forms, which were distributed to the respondents. The pre-test was conducted to assess the clarity, relevance, validity, and reliability of each questionnaire item before being used in the main study.

The testing process was conducted using SPSS software through construct validity tests, including the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy (MSA), Bartlett's Test of Sphericity, and Anti-Image Correlation. The instrument was considered to meet the construct validity criteria if the KMO value was greater than 0.50, the significance value of Bartlett's Test was less than 0.05, and the Anti-Image Correlation value for each indicator was greater than 0.50.

Subsequently, the reliability of the instrument was assessed using Cronbach's Alpha, with a threshold value greater than 0.70 [21]. If all these criteria were satisfied, the research instrument was considered valid, reliable, and suitable for use in the main data collection process [21].

This study employs a data analysis method based on the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach. This approach was selected because the research model incorporates a moderate variable and involves a relatively limited sample size, making PLS-SEM an appropriate method for analyzing the proposed model.

In Structural Equation Modeling (SEM), the analysis consists of two main stages: the outer model and the inner model. The outer model assessment includes outer loadings and convergent validity, which is evaluated based on an Average Variance Extracted (AVE) value greater than 0.50. Discriminant validity is assessed using the Fornell-Larcker criterion by comparing the square root of the AVE for each construct with the correlations between that construct and other constructs. Discriminant validity is also evaluated using the Heterotrait - Monotrait Ratio (HTMT), with a value below the threshold of 0.90 considered acceptable. Reliability is assessed using Cronbach's Alpha, Composite Reliability (ρ_A), and Composite Reliability (ρ_C), with values above 0.70 considered satisfactory.

Meanwhile, the inner model assessment includes Collinearity Statistics through the Variance Inflation Factor (VIF), with a VIF value below 5.00 indicating an acceptable level of collinearity. The coefficient of determination, or R Square (R^2), is used to assess the explanatory power of the model, with values of 0.75, 0.50, and 0.25 categorized as strong, moderate, and weak, respectively. F Square (f^2) is used to assess the effect size or contribution of each exogenous variable to an endogenous variable.

Predictive relevance is evaluated using the PLS predict procedure, with a Q^2_{predict} value greater than 0 indicating predictive relevance. Model fit is evaluated using the Standardized Root Mean Square Residual (SRMR), where an SRMR value below 0.08 indicates a good model fit. Path coefficients are used to determine the direction and strength of relationships between variables. Finally, hypothesis testing is conducted using the bootstrapping procedure, with a t-statistic value greater than 1.96 and a p-value less than 0.05 indicating a statistically significant relationship.

III. RESULT AND DISCUSSION

The characteristics of the respondents in this study were obtained from 200 respondents who met all the research criteria. All respondents (100%) reside in West Jakarta, belonging to Generation Z, are active customers of the Shopee *e-commerce* platform, and have made at least one repeat purchase through the Shopee *e-commerce* platform within the past two months. This indicates that all respondents met the predetermined sample criteria and were therefore eligible to serve as sources of research data. In terms of gender, the respondents were predominantly male, comprising 102 respondents (51%), while female respondents accounted for 98 respondents (49%).

Regarding age, most respondents were between 24 and 26 years old, totaling 85 respondents (42.5%), followed by those aged 21–23 years with 55 respondents (27.5%), 17–20 years with 34 respondents (17%), and 27–29 years with 26 respondents (13%). These findings indicate that most respondents belonged to Generation Z within the productive age group and were active users of *e-commerce* platforms. In terms of occupation, the majority of respondents were students, totaling 80 respondents (40%), followed by private-sector employees with 67 respondents (33.5%), and entrepreneurs with 53 respondents (26.5%).

This composition indicates that the respondents came from diverse occupational backgrounds, with students representing the largest group and constituting active users of the Shopee *e-commerce* platform.

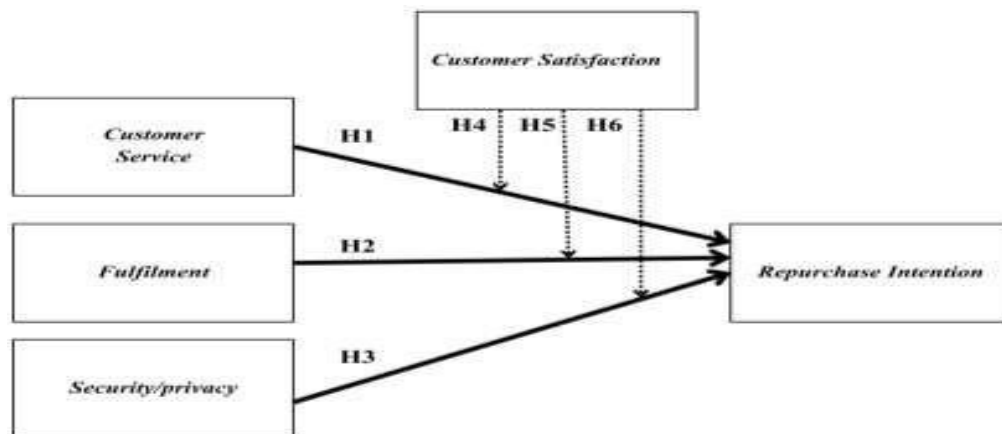


Fig 1. Model Modification

The results of the convergent validity and reliability assessments indicate that all constructs meet the established measurement criteria. All indicators demonstrate adequate factor loading values, while the Average Variance Extracted (AVE) and Composite Reliability (CR) values exceed the recommended thresholds. These findings confirm that each construct demonstrates satisfactory convergent validity and reliability. Therefore, all constructs are considered valid and reliable and are deemed appropriate for inclusion in the structural model analysis.

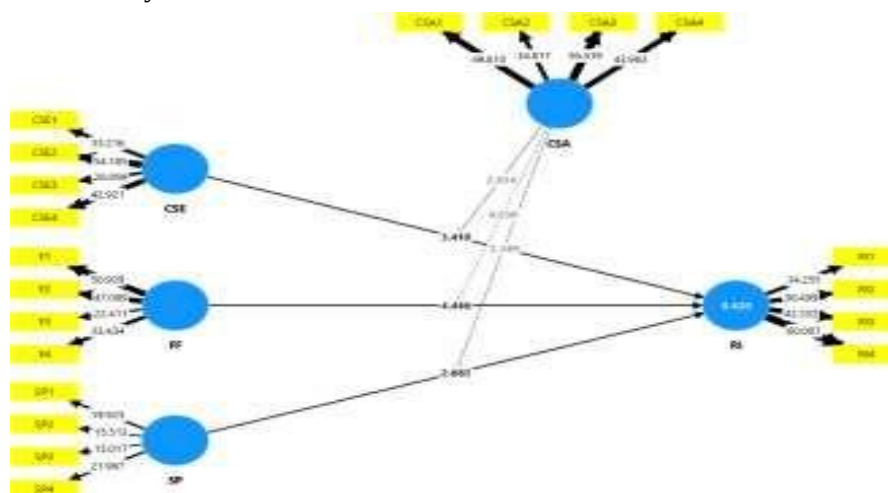


Fig 2. Path Diagram T-Value

Variable	Item	Loadings	Average Variance Extracted	Composite Reliability
<i>Customer Service</i>	CSE1	0.857	0.767	0.922
	CSE2	0.910		
	CSE3	0.852		
	CSE4	0.883		
	F1	0.885		

Fulfilment	F2	0.883	0.739	0.912
	F3	0.813		
	F4	0.857		
Security/privacy	SP1	0.879	0.778	0.956
	SP2	0.876		
	SP3	0.868		
	SP4	0.904		
Customer Satisfaction	CSA1	0.896	0.786	0.913
	CSA2	0.865		
	CSA3	0.895		
	CSA4	0.890		
Repurchase Intention	RI1	0.843	0.743	0.889
	RI2	0.845		
	RI3	0.863		
	RI4	0.897		

Table 2. Results of Measurement Model Evaluation

The path diagram analysis produced an R-squared value of 0.428 for the Repurchase Intention (RI) variable. This indicates that the combination of Customer Service (CSE), Fulfilment (FF), Security/Privacy (SP), and Customer Satisfaction (CSA) explains 42.8% of the variation in Repurchase Intention, while the remaining 57.2% is influenced by other factors outside the proposed research model. Based on the path diagram, the relationships between Customer Service, Fulfilment, Security/Privacy, and Repurchase Intention indicate positive effects. In addition, Customer Satisfaction is included as a moderating variable in the relationships between Customer Service, Fulfilment, and Security/Privacy toward Repurchase Intention. In the hypothesis testing stage, a hypothesis is considered accepted if the T-statistic is greater than 1.96 and the p-value is less than 0.05.

Hypothesis	Hypothesis Statement	P-Value	T-Statistic	Description	Conclusion
H1	Customer Service has a positive effect on Repurchase Intention	0.001	3.410	The data supports the hypothesis	Accepted
H2	Fulfilment has a positive effect on Repurchase Intention	0.000	4.446	The data supports the hypothesis	Accepted

H3	Security/Privacy has a positive effect on Repurchase Intention	0.004	2.683	The data supports the hypothesis	Accepted
H4	Customer Satisfaction moderates the effect of Customer Service on Repurchase Intention.	0.002	2.834	The data supports the hypothesis	Accepted
H5	Customer Satisfaction moderates the effect of Fulfilment on Repurchase Intention.	0.000	4.650	The data supports the hypothesis	Accepted
H6	Customer Satisfaction moderates the effect of Security/Privacy on Repurchase Intention.	0.000	3.349	The data supports the hypothesis	Accepted

Table 4. Research Model Hypothesis Testing

The results of the study indicate that all six hypotheses are significantly accepted, as each relationship has a p-value below 0.05 and a T-statistic greater than 1.96. However, the magnitude of the relationships varies across the proposed hypotheses. The relationship between Fulfilment and Repurchase Intention represents the strongest path, with a T-statistic of 4.650, indicating that Fulfilment has the most substantial influence on customers' intention to repurchase. Furthermore, Customer Satisfaction significantly moderates the effects of Customer Service, Fulfilment, and Security/Privacy on Repurchase Intention, with T-statistics of 2.834, 4.650, and 3.349, respectively. In contrast, the relationship between Security/Privacy and Repurchase Intention represents the weakest direct relationship, with a T-statistic of 2.683. This finding suggests that although Security/Privacy significantly contributes to customers repurchase intention, its effect is relatively weaker than the other direct and moderating relationships examined in the research model.

	<i>R-square</i>	<i>R-square adjusted</i>
RI	0.428	0.407

Table 5. R-Square

Based on the R-square test results, the R-square value for Repurchase Intention (RI) is 0.428, with an adjusted R-square value of 0.407. This indicates that Customer Service, Fulfilment, Security/Privacy, and the moderating effect of Customer Satisfaction jointly explain 42.8% of the variation in Repurchase Intention, while the remaining 57.2% is explained by other factors outside the research model. Furthermore, the adjusted R-square value of 0.407 indicates that after adjustment for the predictors included in the model, 40.7% of the variation in Repurchase Intention can be explained by the research model.

	CSA	CSE	FF	RI
CSA				0.127
CSE				0.066
FF				0.111
RI				
SP				0.033

CSA x CSE				0.043
CSA x FF				0.108
CSA x SP				0.049

Table 6. F-Square

Based on the results of the F-Square (f^2) test, all variables in the model have effect sizes categorized as small on *Repurchase Intention*. The effect of *Customer Service* on *Repurchase Intention* has an f^2 value of 0.066, while *Fulfilment* has a value of 0.111 and *Security/Privacy* has a value of 0.033. For the moderating effects, the interaction between *Customer Satisfaction* × *Customer Service* has an f^2 value of 0.043, *Customer Satisfaction*

× *Fulfilment* has a value of 0.108, and *Customer Satisfaction* × *Security/Privacy* has a value of 0.049. Thus, although all variables have effect sizes categorized as small, *Fulfilment* has the relatively largest effect size on *Repurchase Intention*, while among the moderating relationships, *Customer Satisfaction* × *Fulfilment* has the relatively largest effect size.

IV. CONCLUSION

Based on the results of the hypothesis testing, it can be concluded that all variables in the research model have been proven to play a significant role in shaping customers' *repurchase intention*. *Customer service* has a positive and significant effect on *repurchase intention*, indicating that the better the customer service provided by Shopee, such as ease of contacting *customer service*, responsive communication, clarity in handling product returns, and the ability to provide solutions to customer problems, the higher customers' intention to make repeat purchases.

Fulfilment also has a positive and significant effect on *repurchase intention*, indicating that delivery accuracy, product conformity with orders, accuracy of product descriptions, and the condition of goods upon receipt are important factors that lead customers to perceive Shopee as a reliable *platform*. Furthermore, *security/privacy* has a positive and significant effect on *repurchase intention*, indicating that the protection of personal data, payment information security, transaction security features, and shopping history privacy are important factors in increasing customers' sense of security when making transactions again.

In addition, *customer satisfaction* has been proven to strengthen the effects of *customer service*, *fulfilment*, and *security/privacy* on *repurchase intention*. This indicates that customer satisfaction strengthens the relationship between service quality and repurchase intention. When customers are satisfied with their shopping experience on Shopee, good customer service, accurate order fulfilment, and guaranteed security and privacy will further encourage customers to make repeat purchases.

V. ACKNOWLEDGMENT

The author would like to express their sincere appreciation and gratitude to all parties who have provided support and contributed to the completion of this research. Special thanks are extended to Esa Unggul University for the academic support provided, as well as to all respondents who willingly took the time to participate in this study.

The author also expresses gratitude to the lecturers and colleagues for their guidance, constructive feedback, and valuable suggestions throughout the research process. The author hopes that the findings of this study will contribute to the development of knowledge, particularly in understanding digital consumer behavior, and provide practical benefits for cosmetic companies in developing more effective social media marketing strategies.

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