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## The Influence of Service Quality and Security on Customer Loyalty Through Customer Satisfaction (a case at Lalamove)

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**Abstract:** The purpose of this study is to determine the effect of service quality, and security on customer loyalty with customer satisfaction as a mediation tool. In this study, questionnaires are used to collect data focused on Lalamove users in DKI Jakarta using quantitative approaches. A basic random sampling procedure is used to acquire a sample of 133 respondents. Samples were obtained using purposive sampling techniques and data analysis using Structural Equation Modelling (SEM). The independent variables used are service quality and security, and the dependent variables are customer loyalty and customer satisfaction as intervening variables. This demonstrates that through consumer pleasure, there is a noteworthy and positive association among the independent variables of service quality and security and customer loyalty as variables dependent. This research revealed that customer satisfaction exerts a substantial positive influence on customer loyalty, emphasizing that contented customers are more inclined to maintain their loyalty to the company.

**Keyword:** Service Quality, Security, Customer Loyalty, Customer Satisfaction.

### INTRODUCTION

Delivery of goods is an important element in the modern supply chain which is related to the movement and distribution of goods from producers to consumers (Harrison, A., & Van Hoek, 2021). In the increasingly growing era of globalization and e-commerce, goods delivery service companies need to ensure high efficiency, confidentiality, security, and customer satisfaction in carrying out their services.

The goal of a company when creating a service is customer satisfaction. Customer satisfaction is an independent construct and is influenced by service quality. Service quality encourages customers to commit to a company's products and services so that it has an impact on increasing the market share of a product. Service quality and secure delivery are very crucial for maintaining long-term user satisfaction. Companies that have superior service will be able to maximize the company's financial performance.

The rapid progress of information technology has made it possible to implement new, more efficient ways of producing, distributing, and consuming goods and services, up to the delivery of goods which were previously still conventional, where we had to go to a goods

delivery service provider with the goods we wanted to send, now has changed to become more advanced with adaptations in line with technological developments. One of them is the emergence of online delivery services, representing a new form of innovation in the express realm. The online delivery services currently available are Lalamove, Anteraja, and Wahana. These transportation services are growing very rapidly, especially at Lalamove which provides various services, namely Moving Goods Transport Services, Pickup Rental, Blindvan Rental, Truck Rental, and Box Car Rental.

Along with the high growth of e-commerce businesses, there is an increasing demand for reliable and affordable delivery services that support the development of the e-commerce industry in Indonesia, Lalamove is here as a solution to answer and fulfill needs amid a rapidly developing digital era like now the need for fast, practical, and safe goods delivery services.

Increased competition in the delivery business is pushing service providers to be well-prepared to stay relevant in the race with their competitors. Higher public demand for reliable delivery services has driven delivery service companies to compete fiercely by offering superior service quality compared to their competitors.

Lalamove users often experience several concerns when sending their goods using online delivery services such as Lalamove, including regarding the quality of service and security in delivery, such as the case in the detikNews article, the Lalamove driver did not deliver the goods but the amount of refund given by Lalamove did not match the amount of loss experienced. Even though the user has reported it to Lalamove by attaching all the evidence. The next concern is quoted from radaupdate.id there were cases of Lalamove drivers who were not careful when driving, resulting in losses to the goods being delivered, customers who experienced these losses complained to Lalamove customer service, previously, the drivers did not ensure that consumers had packed them safely.

The things above concerns for users of online delivery services, therefore we are interested in discussing these things in our research.

## **Literature Review**

### **1. Service Quality**

Service quality is the measure of how well a consumer perceives the service received compared to their initial expectations. It encompasses various factors such as responsiveness, reliability, assurance, empathy, and tangibles. When the service matches or exceeds the anticipated level, it is deemed good and satisfying.

(Zeithaml, V. A., Bitner, M. J., & Gremler, 2020) Service quality is the overall characteristics of a good or service that affect its ability to satisfy expressed or implied needs. The quality of service provided by the company must meet customer expectations, service quality is the main basis for knowing the level of customer satisfaction.

The importance of service quality cannot be predicted as it goes well beyond the mere vision and mission of a company. It enables the organization to go the extra mile in providing enhanced and superior services to its customers. This objective is primarily motivated by the company's aspiration to not only meet but exceed customer expectations, all in a bid to not just satisfy, but also foster and sustain customer loyalty in the long term.

### **2. Security**

In all types of purchase and sale transactions, whether conducted online or offline, consumers have the right to expect the goods they buy to meet the promised quality, condition, suitability, and security as guaranteed by the seller or service services Lalamove. This means that consumers are entitled to receive products that align with the specifications and assurances provided at the time of purchase, ensuring that they get what they were promised when making the transaction.

When it comes to maintaining the safety of goods during transportation, there are several important factors to consider. First and foremost, it's crucial to use packaging materials that are

specifically designed to protect the goods from any potential damage securely. This might involve using sturdy boxes, cushioning materials such as bubble wrap or packing peanuts, and ensuring that the items are properly secured within the packaging.

Additionally, for items that are particularly fragile or susceptible to breakage, it's important to use warning signs such as "handle with care" or "do not slam" to alert handlers and carriers about the delicate nature of contents. This can help prevent rough handling or mishaps during the process, reducing the likelihood of damage.

By paying close attention to these details and taking proactive measures to protect the goods, it's possible to minimize the risk of damage during transportation and ensure that the items arrive safely at their destination.

(Goodman, S., & Whitman, 2021) A strong focus on security is indispensable as it directly influences customer satisfaction and loyalty. Loss of trust due to compromised security can have lasting negative effects on service services Lalamove reputation. Thus, implementing robust security measures is paramount to safeguarding both customer satisfaction and trust.

### **3. Customer Satisfaction**

Customer satisfaction refers to the evaluation of a consumer's emotional state following their use of a product or service. It encompasses the fulfillment of the consumer's expectations, desires, and needs. This evaluation can arise from various factors, such as the product's quality, functionality, customer service, security, and overall experience. Satisfaction is a crucial aspect of consumer behavior and can significantly impact their future purchasing decisions and brand loyalty.

According to (richard oliver ( dalam Zeithml., 2021) Customer satisfaction is individual contentment or dissatisfaction following a comparison of the estimated outcome effectiveness of a product with the expected performance or outcomes and customer satisfaction is the difference between expectations and perceived performance, the feeling of pleasure or disappointment that someone gets from comparing between the performance or perceived product results and expectations.

As per the provided definition, customer satisfaction pertains to the reaction of the consumer, which encompasses expressing contentment or fulfillment regarding the goods or services they have obtained and utilized. This indicates that customer satisfaction is contingent on the customer's experience and perception of the quality, value, and performance of the products or services they have received.

### **4. Customer Loyalty**

Customer loyalty is the result of a customer's ongoing decision to repeatedly purchase products or services from a specific brand, store, or supplier. This commitment is established due to a combination of factors including positive experiences, satisfaction with the product or service, excellent customer service, and the effective resolution of any complaints or issues that may arise. It is built on trust and a positive long-term relationship between the customer and the business.

(Reichheld, F. F., & Schefter, 2022) Customer loyalty encompasses the deep and unwavering commitment of customers to consistently repurchase or patronize a favored product or service over time. This commitment translates into repeated purchases of the same product or brands, reflecting the trust and satisfaction that customers have in the chosen offerings.

The behavior of customers often mirrors that of good friendships in several ways. Customers desire to be acknowledged and treated as individuals, with the assurance that their needs are being addressed on a personalized level. They seek to engage with brands or individuals they can rely on and trust. Additionally, they want to feel that their time is valued and respected. As a result, successful service brands leverage these principles to cultivate a strong sense of community among their customer, thereby fostering lasting and meaningful relationships.

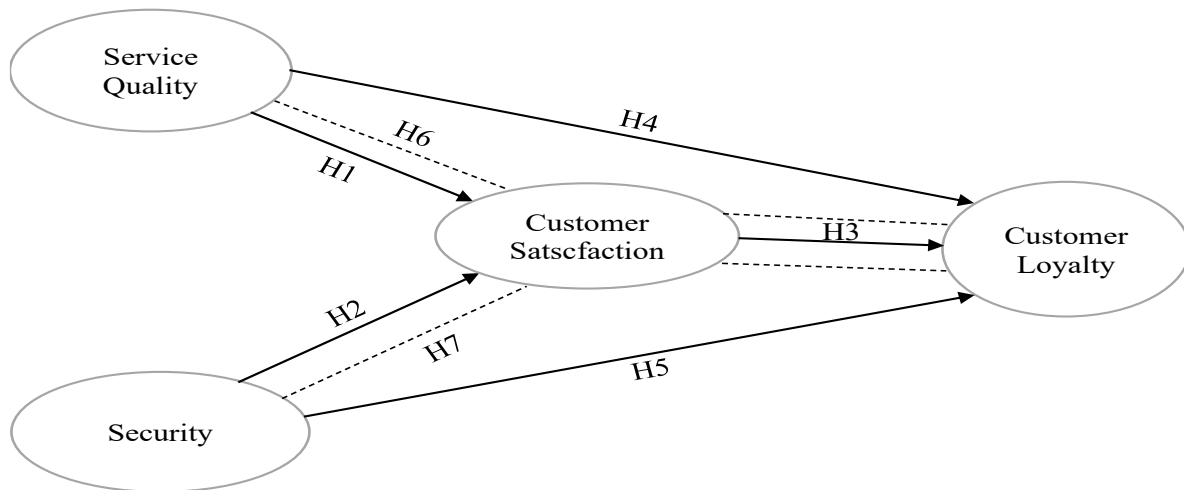


Figure 1. Framework

### Hypothesis

- H<sup>1</sup>: It is suspected that there is an influence between service quality and customer satisfaction.
- H<sup>2</sup>: It is suspected that there is an influence between security and customer satisfaction.
- H<sup>3</sup>: It is suspected that there is an influence between customer satisfaction and customer loyalty.
- H<sup>4</sup>: It is suspected that there is an influence between service quality and customer loyalty.
- H<sup>5</sup>: It is suspected that there is an influence between security and customer loyalty.
- H<sup>6</sup>: It is suspected that there is an influence between service quality on customer loyalty through customer satisfaction as an intervening variable.
- H<sup>7</sup>: It is suspected that there is an influence between security and customer loyalty through customer satisfaction as an intervening variable.

### METHOD

This study used a quantitative descriptive methodology, according to (Creswell, 2022) quantitative research is a systematic approach that focuses on gathering and analyzing numerical data to understand and explain different phenomena. It involves conducting structured experiments, utilizing surveys, and employing statistical analyses to test hypotheses and identify relationships between variables. This approach allows researchers to derive precise and measurable results, providing valuable insights into the subject under investigation.

(Weyant, 2022) Shown that descriptive research is a fundamental research method that aims to comprehensively depict and characterize a specific phenomenon or event. It emphasizes the gathering and analysis of data through diverse techniques such as surveys, interviews, and observations in order to recognize underlying patterns, correlations, and relationships within the studied subject.

For this research, testing hypotheses is an effective method, several quantitative methods are used to collect data, one of which is through the use of questionnaires, the sample in this study data used is primary data obtained directly from primary sources through questionnaires.

The unit of analysis used is individuals (users) who perform Lalamove services because this study aims to identify respondents who related to the function of customer satisfaction as a mediator in the connection between service quality, and security on customer loyalty through Lalamove customer satisfaction.

The data analysis tool used to test the hypothesis in this research is Structural Equation Modeling (SEM-PLS) with Smart-PLS version 4 software application, this research sample consisted of 131 respondents, and the sampling technique used was purposive sampling because it was considered to provide a high-quality sample, SEM assessments it is the minimum sample size range from 100 to 300.

## RESULTS AND DISCUSSION

### Evaluation of Measurement Models (Outer Model)

Measurement models are essential components of statistical analysis, particularly within the framework of Structural Equation Modeling (SEM) and factor analysis. These models serve to evaluate the degree to which the selected indicators or items effectively capture the underlying construct or latent variable. By scrutinizing the relationships between the observed variables and the latent constructs, measurement models provide valuable insights into the validity and reliability of the measurements used in statistical analysis.

When evaluating the measurement model, it is important to consider three key stages. These stages include the convergent validity test, which assesses the extent to which different measures of the same construct are related, the discriminant validity test, which examines whether measures that are not supposed to be related are actually distinct, and the composite reliability test, which evaluates the overall reliability of measurement model. This process enables researchers to ensure that the data accurately reflects the constructs they are aiming to assess, thereby enhancing the overall robustness and accuracy of the analytical outcomes.

### Convergent Validity Test

(Rick H. Hoyle, 2019) Convergent validity is a type of construct validity that confirms whether a set of indicators or items measuring the same construct are correlated. The idea is that if different indicators are truly measuring the same construct, they should be highly correlated with one another. High correlations between these indicators provide evidence that they are indeed reflecting the same underlying construct, thereby enhancing the validity of the measurement tool.

When assessing validity testing for reflective indicators, it is essential to consider the correlation between the indicator score and the construct score. This involves examining how changes in an indicator within a construct correspond to changes in other indicators within the same construct. Essentially, it helps to gauge the extent to which the reflective indicators collectively reflect changes in the underlying construct.

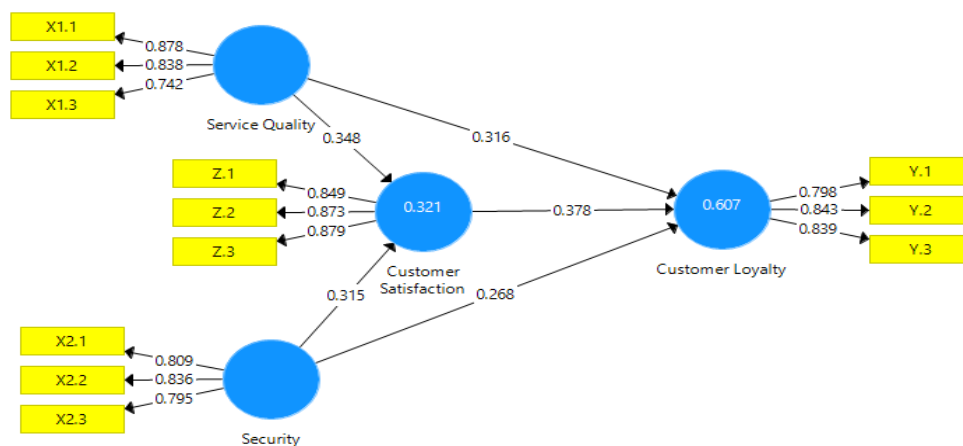


Figure. 2. Image of Output Loading Factor Modelling

The following are the results of calculations using the Smart-PLS 4.0 computer program:

**Table 1. Convergent Validity Test**

	Security	Customer Satisfaction	Service Quality	Customer Loyalty
X1.1			0.878	
X1.2			0.838	
X1.3			0.742	
X2.1	0.809			
X2.2	0.836			
X2.3	0.795			
Y.1				0.798
Y.2				0.843
Y.3				0.839
Z.1		0.849		
Z.2		0.873		
Z.3		0.879		

According to (Hair et al., 2010) the study, a correlation can be said to meet convergent validity if it has a loading value greater than 0.5. The output shows that all loading factor values provide values above the recommended value of 0.5. So that the indicators used in this research meet convergent validity.

**Discriminant Validity Test**

(Rick H. Hoyle, 2019) To assess the discriminant validity of reflective indicators, it is important to examine the values in the cross-loading table. This involves comparing the values of each indicator for the intended construct with the loading factor values for all other constructs. An indicator is deemed to be valid if its loading factor value for the specified construct is notably higher than its loading factor value for any other construct. This comparison is crucial for ensuring that the indicators are indeed measuring the intended constructs and not being influenced by other factors.

**Table 2. Output Cross Loading**

	Security	Customer Satisfaction	Service Quality	Customer Loyalty
X1.1	0.518	0.460	0.878	0.580
X1.2	0.333	0.362	0.838	0.537
X1.3	0.246	0.388	0.742	0.408
X2.1	0.809	0.425	0.314	0.479
X2.2	0.836	0.377	0.361	0.463
X2.3	0.795	0.353	0.445	0.503
Y.1	0.446	0.503	0.488	0.798
Y.2	0.472	0.528	0.517	0.843
Y.3	0.544	0.602	0.544	0.839
Z.1	0.374	0.849	0.405	0.576
Z.2	0.433	0.873	0.452	0.579
Z.3	0.426	0.879	0.423	0.564

**Table 3. HTMT Test**

	Security	Customer Satisfaction	Service Quality	Customer Loyalty
Security				
Customer Satisfaction	0.600			
Service Quality	0.594	0.617		
Customer Loyalty	0.778	0.821	0.810	

Based on the output above, it shows that all HTMT values are <0.9 so all constructs are declared valid in terms of discriminant validity based on HTMT calculations.

**Reliability Test**

According to (Sarstedt et al., 2021) a latent variable is considered to have good reliability when the composite reliability value exceeds 0.7. In the context of testing for reliability, a variable is deemed reliable if both the Cronbach’s Alpha and composite reliability values are higher than 0.6. These benchmarks are used to assess the trustworthiness and consistency of latent variables in the context of the research or analysis being conducted.

**Table 4. Reliability Test Results**

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Security	0.745	0.745	0.855	0.662
Customer Satisfaction	0.835	0.835	0.901	0.751
Service Quality	0.757	0.776	0.861	0.674
Customer Loyalty	0.769	0.774	0.866	0.684

The results of the study’s data analysis reveal that all the variables measured in this research have Cronbach’s Alpha and composite values that exceed 0.6. This suggests that all the variables can be considered to be reliable in the context of this study.

**Evaluation of the Structural Model (*Inner Model*)**

In the process of evaluating the structural model in Structural Equation Modeling (SEM) with Partial Least Squares (PLS), the assessment involves conducting the R-squared test (R<sup>2</sup>) and performing significance testing by estimating path coefficients. This evaluation allows for a thorough analysis of the relationships between variables and the overall fit of the model.

### Testing R<sup>2</sup>

Output testing for the R<sup>2</sup> value using the SmartPLS 4.0 computer program is obtained:

**Table 5. R<sup>2</sup> Output Calculation**

	R Square	R Square Adjusted
Customer Satisfaction	0.321	0.309
Customer Loyalty	0.607	0.597

The R-squared (R<sup>2</sup>) value is a statistical measure that represents the proportion of the variance for a dependent variable that's explained by an independent variable. In this context, the R-squared values indicate that the independent variables have a 0.309 or 30.9% influence on customer satisfaction and a 0.597 or 59.7% influence on customer loyalty. This demonstrates the significant impact of these independent variables on the respective dependent variables.

**Table 6. Effect Size Test (F Test)**

	Security	Customer Satisfaction	Service Quality	Customer Loyalty
Security		0.115		0.130
Customer Satisfaction				0.247
Service Quality		0.141		0.176
Customer Loyalty				

Customer satisfaction has the highest impact on user loyalty, with a score of 0.0247, compared to other variables.

### Significance Test

The significance test in the Structural Equation Modeling (SEM) model with Partial Least Squares (PLS) is carried out to assess the impact of exogenous variables. In this process, hypothesis testing is conducted using the SEM-PLS method, which involves performing a bootstrapping procedure facilitated by the Smart-PLS 4.0 computer program. Through bootstrapping, we generate multiple samples from the dataset to obtain robust estimates of model parameters. This allows us to ascertain the relationship between the influence of exogenous variables on endogenous variables with a higher degree of confidence and accuracy.

(Fisher, 2023) (Moore, D.S., McCabe, G.P., & Craig, 2021) When all variable p-values are smaller than 0.05 and t-statistics are greater than 1.96, it typically indicates that all variables are statistically significant in the model. This implies that the variables exert a notable influence on the dependent variable, given that other model assumptions and fit criteria are satisfied as well.

**Table 7. Results of Bootstrapping Calculation of Research Data**

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV)	P Values
Security -> Customer Satisfaction	0.315	0.293	0.097	3.248	0.001
Security -> Customer Loyalty	0.268	0.265	0.074	3.623	0.000
Customer Satisfaction -> Customer Loyalty	0.378	0.350	0.088	4.291	0.000
Service Quality -> Customer Satisfaction	0.348	0.284	0.159	2.195	0.029
Service Quality -> Customer Loyalty	0.316	0.300	0.094	3.380	0.001

Based on the output results above, all variable p values are smaller than 0.05 and t statistics are greater than 1.96, namely:

- a) Security -> Customer Satisfaction with a p value of 0.001 and t statistic  $3.248 > 1.96$  so that security has a significant relationship with the ability to satisfy customers with a positive correlation (hypothesis accepted).
- b) Security -> Customer Loyalty with p value 0.000 and t statistic  $3.623 > 1.96$  so that security has a significant relationship to user loyalty with a positive correlation (hypothesis accepted).
- c) Customer Satisfaction -> Customer Loyalty with p value 0.000 and t statistic  $4.291 > 1.96$  so that customer satisfaction has a significant relationship with customer loyalty with a positive correlation (hypothesis accepted).
- d) Service Quality -> Customer Satisfaction with p value 0.029 and t statistic  $2.195 > 1.96$  so that service quality has a significant relationship with customer satisfaction with a positive correlation (hypothesis accepted).
- e) Service Quality -> Customer Loyalty with p value 0.001 and t statistic  $3.380 > 1.96$  so that service quality has a significant relationship with customer loyalty with a positive correlation (hypothesis accepted).

**Table 8. Indirect Effect Test**

	<b>Original Sample (O)</b>	<b>Sample Mean (M)</b>	<b>Standard Deviation (STDEV)</b>	<b>T Statistics ( O/STDEV )</b>	<b>P Values</b>
Security -> Customer Satisfaction					
Security -> Customer Loyalty	0.119	0.105	0.049	2.442	0.015
Customer Satisfaction -> Customer Loyalty					
Service Quality -> Customer Satisfaction					
Service Quality -> Customer Loyalty	0.132	0.103	0.066	1.987	0.047

Based on the output results above, it is evident that the p value of all variables is less than 0.05 indicating statistical significance, and the t statistic exceeds 1.96 indicating a high level of confidence. Consequently, this implies that there is potential for customer satisfaction to act as a mediating factor in the relationship between service quality literacy and customer loyalty. Furthermore, customer satisfaction also has the potential to mediate the relationship between security and customer loyalty.

**CONCLUSION**

In the previous chapter, the thorough analysis of the data yielded significant insights into the relationship between Service Quality and Security on Customer loyalty through Customer Satisfaction of Lalamove. The findings highlighted that service quality plays a pivotal role in influencing customer satisfaction. Through rigorous statistical analysis, it was established that there is a substantial correlation between effective service quality and heightened customer satisfaction. Moreover, the study also underscored the impact of security on customer satisfaction, indicating that customers exhibit higher levels of satisfaction when services are delivered with assured security and excellence. Additionally, the research revealed that customer satisfaction exerts a substantial positive influence on customer loyalty, emphasizing that contented customers are more inclined to maintain their loyalty to the company.

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