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## The Implications of Logistics Service Quality, Logistics Tariff, and Advanced Technology on the Courier Logistics Performance PT Satria Antaran Prima Tbk with Customer Satisfaction as a Mediating Variable

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**Abstract:** PT Satria Antaran Prima Tbk experienced a 6.59% decline in Gross Operating Profit (GOP) in 2024 despite a 9.7% increase in revenue, accompanied by customer complaints on social media. This condition indicates potential issues related to courier logistics performance and customer satisfaction associated with logistics service quality, tariffs, and technology utilization. This study aims to examine the effects of Logistics Service Quality, Logistics Tariff, and Advanced Technology on Customer Satisfaction and Courier Logistics Performance. Using a quantitative approach with PLS-SEM analysis, data were collected from 392 active customers in Jakarta. The findings reveal that Logistics Service Quality, Logistics Tariff, and Advanced Technology positively and significantly influence Customer Satisfaction. Furthermore, Customer Satisfaction significantly improves Courier Logistics Performance and mediates the relationship between the independent variables and Courier Logistics Performance. These findings highlight the importance of service quality, competitive pricing, and technological advancement in enhancing customer satisfaction and logistics performance.

**Keyword:** Logistics Service Quality, Logistics Tariff, Customer Satisfaction, Courier Logistics Performance, Structural Equation Modeling (SEM).

### INTRODUCTION

PT Satria Antaran Prima Tbk (SAP), a company engaged in courier and warehousing services, has been listed on the Indonesia Stock Exchange (IDX) since October 3, 2018. Based on the company's 2024 financial report obtained from the official IDX platform, SAP recorded revenue of IDR 682,513,129,935, representing a 9.7% year-on-year (YoY) increase compared to 2023. However, the company's Gross Operating Profit (GOP) in 2024 amounted to IDR 141,525,719,067, reflecting a 6.59% decline from the previous period. In addition, various customer complaints were identified on SAP Express social media platforms

throughout 2024, with the specific distribution of these complaints presented in the table below:

**Table 1. Customer Complain**

| No    | Complaint Category                            | Percentage  |
|-------|---|-------------|
| 1     | Package delayed / not yet received            | 57,5%       |
| 2     | Shipping status not moving / not updated      | 15,0%       |
| 3     | Package held up / unclear location            | 10,0%       |
| 4     | Unresponsive customer service                 | 7,5%        |
| 5     | General complaints about the shipping service | 7,5%        |
| 6     | Incorrect / mismatched shipping status        | 2,5%        |
| Total |   | <b>100%</b> |

*Source: Data Processed from Customer Complaints in the Official Instagram Posts of SAPX, 2024.*

These conditions indicate potential issues related to courier logistics performance and customer satisfaction, which, according to several studies, are associated with Logistics Service Quality (LSQ), logistics tariffs, and technology utilization. Factors such as reliability and timeliness within the LSQ framework, cost transparency, and the implementation of advanced technology are considered important determinants of customer satisfaction and courier logistics performance.

In the framework proposed by Lin et al. (2023), the essence of Logistics Service Quality (LSQ) lies in the service provider's proficiency in meeting or exceeding established customer standards, encompassing key dimensions such as timeliness, reliability, security, communication, condition of goods, and the quality of personnel interaction (Imelda et al., 2024). Empirical evidence reinforces the importance of these aspects, as demonstrated by Imelda et al. (2024) in their study on J&T Express, which found that delivery punctuality and employee competence significantly influence customer satisfaction, while Rosyada et al. (2020) underscored the importance of timely delivery and effective claim resolution. Furthermore, Sumarna (2022) and Al Akbar et al. (2022) confirmed that prompt delivery and responsive communication are crucial in sustaining customer loyalty. From a theoretical standpoint, Drawing upon the foundational theories of Kotler (2020) as synthesized by Sudrajat (2025), Logistics Service Quality (LSQ) is conceptualized not merely as a functional operation but as a multidimensional construct built upon five essential pillars. These dimensions encompass tangibles, which involve the physical evidence of service; reliability, reflecting the firm's ability to perform the promised service dependably; responsiveness, or the willingness to assist customers promptly; assurance, involving the knowledge and courtesy of employees; and empathy, which characterizes the individualized attention provided to clients. Together, these elements form a comprehensive framework for evaluating how effectively a courier service aligns its operational outputs with the multifaceted expectations of its user base.

Beyond the influence of service quality, the configuration of pricing structures serves as a critical determinant in modulating customer perceptions and overall satisfaction levels. Al Akbar et al. (2022) explain that pricing is typically determined based on factors such as weight, distance, and service type; however, customers place greater importance on perceived fairness and price transparency. Setiawan and Frianto (2021) further note that satisfaction

increases when the costs incurred are aligned with the value received and the quality of service delivered. From a theoretical perspective, Kotler and Armstrong, as cited in Rivanni et al. (2021), define pricing through four key dimensions: affordability, consistency between price and quality, competitiveness, and the alignment between price and benefits.

The implementation of technology plays a vital role within the logistics ecosystem, where Fanifia et al. (2024) emphasize that technological adoption not only enhances service quality but also drives significant transformations in logistics business models and designs. To optimize service processes, organizations increasingly leverage AI, IoT, and automation, targeting greater systemic transparency and streamlined performance. Furthermore, the strategic integration of digital technology and human resource competence enables firms to meet increasingly complex customer expectations while achieving operational excellence and fostering consumer loyalty (Nasrudin, 2025). Nevertheless, challenges persist, as the dominant use of technology potentially reduces personal interaction with customers, which may ultimately have a negative impact on satisfaction levels and customer retention (Pasape, 2022).

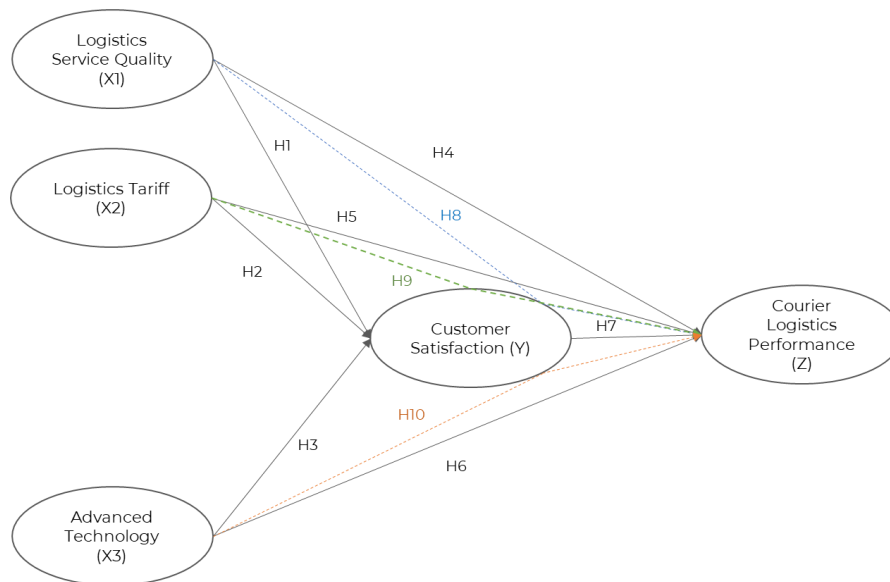
Customer satisfaction arises when the services delivered meet or exceed customers' initial expectations (Ahyani, 2022; Farizky et al., 2022). It is reflected through several dimensions, including customer attitudes, emotional well-being, and the fulfillment of expectations (Supriyanto et al., 2021), which in turn contribute to customer retention, repeat purchases, and improved organizational performance (Zhou et al., 2018; Suchánek & Králová, 2019). In parallel, logistics performance is commonly assessed through indicators such as efficiency, effectiveness, and service differentiation (Liang et al., 2020; Pradana et al., 2024). Supporting this view, Zadajali and Ullah (2024) highlight that service quality and competitive pricing are key drivers in enhancing overall performance.

Despite established theories, empirical findings regarding these variables remain divergent. While Azka et al. (2024) and Haqi (2020) argue that service quality and pricing structures lack a significant impact on customer satisfaction, Aryanti and Mildawati (2020) further contend that information system proficiency does not substantially correlate with corporate performance. Conversely, a significant body of literature, including work by Meirina and Dewi (2021) and Rivand and Suwandi (2023), affirms the positive influence of these capabilities on organizational success. To address these theoretical contradictions, the present study re-evaluates the interplay between logistics service quality, tariffs, and advanced technology on customer satisfaction and performance at PT Satria Antaran Prima Tbk. Specifically, this research explores the mediating function of customer satisfaction in bridging independent variables with broader organizational outcomes.

## **RESEARCH MODEL AND HYPOTHESES**

The present study employs a structural framework to examine the interconnectedness of logistics operations, consumer perceptions, and organizational outcomes. Within this proposed model, Logistics Service Quality (X1), Logistics Tariff (X2), and Advanced Technology (X3) are conceptualized as the primary exogenous constructs. These variables are hypothesized to exert both direct and indirect influences on Courier Logistics Performance (Z), with Customer Satisfaction (Y) serving as the critical intervening variable that bridges these relationships.

Derived from the conceptual framework, ten distinct hypotheses (H1 through H10) were formulated to evaluate the direct and indirect relationships between the constructs. These hypotheses serve to empirically test the structural pathways defined within the research model, specifically focusing on the interplay between logistics operational determinants and organizational outcomes.



**Figure 1. Research Model**

Drawing upon the proposed conceptual framework, the following hypotheses are developed in this study:

- H1 : Heightened logistics service quality (X1) is postulated to exert a favorable and statistically substantial impact on customer satisfaction (Y) within PT SAP.
- H2 : The optimization of logistics tariffs (X2) is projected to serve as a significant driver in augmenting overall customer satisfaction (Y).
- H3 : The implementation of advanced technology (X3) is anticipated to yield a positive and profound influence on customer satisfaction (Y) levels.
- H4 : Superior logistics service quality (X1) is theorized to correlate positively with the enhancement of logistics performance (Z) at PT SAP.
- H5 : Competitive logistics tariffs (X2) are expected to act as a vital determinant for the escalation of organizational performance (Z).
- H6 : The utilization of advanced technology (X3) is predicted to function as a primary catalyst for bolstering courier logistics performance (Z).
- H7 : Elevated customer satisfaction (Y) is instrumental in fostering a significant upward trajectory for courier logistics performance (Z).
- H8 : Customer satisfaction (Y) is hypothesized to significantly bridge the causal link between logistics service quality (X1) and the resultant courier logistics performance (Z).
- H9 : The relationship between logistics tariffs (X2) and courier logistics performance (Z) is significantly channeled through the intermediary role of customer satisfaction (Y).
- H10 : Customer satisfaction (Y) operates as a critical mediating variable, amplifying the positive effects of advanced technology (X3) on courier logistics performance (Z).

**METHOD**

**Research Design**

The study utilizes a quantitative approach based on an explanatory survey to investigate causal links within the proposed structural model. The methodology adopts a dual-track framework comprising descriptive analysis to characterize the sample and verificative analysis to test the influence of logistics determinants on organizational performance. A

cross-sectional design was implemented, facilitating data collection at a specific temporal point. This approach provides a robust snapshot of the operational environment at PT Satria Antaran Prima Tbk, allowing for a rigorous assessment of the structural paths and the mediating influence of customer satisfaction.

### **Population and Sample**

Following the definition by Sugiyono (2021), the population for this study consists of service users capable of assessing the relevant variables. Given the absence of a defined sampling frame, this study employed a non-probability purposive sampling technique, where respondents were selected based on specific criteria relevant to the research objectives. The data collection process was conducted in 2025. The sample size determination adhered to the “rule of thumb” proposed by Hair et al. (2021). Based on 50 research indicators, the study targeted a minimum of 250 participants (1:5 ratio). The final dataset included 392 valid respondents, ensuring that the sample size is sufficiently large to support complex structural modeling and to provide more stable parameter estimates.

To ensure the relevance of the data, a purposive sampling approach was adopted. The inclusion criteria specified that respondents must be adults (minimum 18 years old) residing in Jakarta who possess recent experience with SAP services, defined as having utilized the provider's offerings at least once in the past six months.

### **Data Analysis**

In accordance with Ghazali (2021), Partial Least Squares Structural Equation Modeling (PLS-SEM) is identified as an optimal analytical framework for research involving intricate structural pathways and various latent constructs. This approach is specifically valued for its statistical robustness, as it effectively accommodates data that may not follow a normal distribution. Furthermore, PLS-SEM is highly efficient in producing consistent and reliable estimates, making it particularly suitable for studies where the sample size might otherwise limit the application of covariance-based methods.

Initial data preparation involved an exhaustive examination of potential missing entries and outliers to ensure the robustness of the structural analysis. Subsequently, the outer model was evaluated for convergent validity and reliability using established benchmarks for loading factors, AVE, and reliability coefficients. To ensure the empirical distinctiveness of the constructs, the analysis adopted the HTMT criterion. This approach is favored in modern PLS-SEM research for providing a more stringent and reliable assessment of discriminant validity than traditional methods.

Following the validation of the outer model, the inner model analysis was performed to evaluate the model's predictive capabilities through ( $R^2$ ) and ( $F^2$ ) metrics. To test the statistical significance of the proposed hypotheses, a bootstrapping technique utilizing 5,000 resamples was employed. This procedure allowed for the empirical verification of the causal links in the model, providing a detailed assessment of the mediating roles and total effects as specified in the research design.

## **RESULTS AND DISCUSSION**

### **Descriptive Test**

Table 1 presents a comprehensive overview of the descriptive statistics derived from the study's dataset.

**Table 2. Decriptive Test Results**

| Variable                      | Indicators   | Mean | Interpretation |
|-------------------------------|--------------|------|----------------|
| Logistics Service Quality     | LSQ1 – LSQ10 | 4,17 | Good           |
| Logistics Tariff              | LT1 – LT10   | 4,18 | Good           |
| Advanced Technology           | AT1-AT6      | 4,10 | Good           |
| Customer Satisfaction         | CST1 – CST12 | 4,19 | Good           |
| Courier Logistics Performance | CP1 – CP12   | 4,18 | Good           |

Source : Data Processed from SmartPLS Algorithm (2025)

According to the data illustrated in Table 1, the mean scores for all examined variables range between 3.401 and 4.200. Following the classification established by Waskito (2023), these values fall within the 'good' category. This indicates that, on average, respondents maintain a favorable perception of the operational and service-related factors at PT Satria Antaran Prima Tbk (SAP).

**Convergent Validity Test**

Convergent validity analysis is performed to ascertain the degree to which individual indicators consistently represent their respective underlying constructs. This evaluation centers on the factor loadings of each manifest variable; according to the benchmarks established by Hair et al. (2021), an indicator demonstrates sufficient convergent validity when its loading value surpasses the 0.7 threshold.

**Table 3. Convergent Validity Test Results**

| Variable                         | Item  | Loading Factor | Standard | Decision |
|----------------------------------|-------|----------------|----------|----------|
| <i>Logistics Service Quality</i> | X1_1  | 0.735          | 0.7      | Valid    |
|                                  | X1_2  | 0.741          | 0.7      | Valid    |
|                                  | X1_3  | 0.781          | 0.7      | Valid    |
|                                  | X1_4  | 0.779          | 0.7      | Valid    |
|                                  | X1_5  | 0.760          | 0.7      | Valid    |
|                                  | X1_6  | 0.751          | 0.7      | Valid    |
|                                  | X1_7  | 0.762          | 0.7      | Valid    |
|                                  | X1_8  | 0.767          | 0.7      | Valid    |
|                                  | X1_9  | 0.750          | 0.7      | Valid    |
|                                  | X1_10 | 0.762          | 0.7      | Valid    |
| <i>Logistics Tariff</i>          | X2_1  | 0.724          | 0.7      | Valid    |
|                                  | X2_2  | 0.701          | 0.7      | Valid    |
|                                  | X2_3  | 0.728          | 0.7      | Valid    |
|                                  | X2_4  | 0.763          | 0.7      | Valid    |
|                                  | X2_5  | 0.738          | 0.7      | Valid    |
|                                  | X2_6  | 0.739          | 0.7      | Valid    |
|                                  | X2_7  | 0.714          | 0.7      | Valid    |
|                                  | X2_8  | 0.788          | 0.7      | Valid    |
|                                  | X2_9  | 0.757          | 0.7      | Valid    |
|                                  | X2_10 | 0.775          | 0.7      | Valid    |

|                                      |      |       |     |       |
|--------------------------------------|------|-------|-----|-------|
| <i>Advanced Technology</i>           | X3_1 | 0.755 | 0.7 | Valid |
|                                      | X3_2 | 0.758 | 0.7 | Valid |
|                                      | X3_3 | 0.769 | 0.7 | Valid |
|                                      | X3_4 | 0.748 | 0.7 | Valid |
|                                      | X3_5 | 0.779 | 0.7 | Valid |
|                                      | X3_6 | 0.792 | 0.7 | Valid |
| <i>Customer Satisfaction</i>         | Y1   | 0.802 | 0.7 | Valid |
|                                      | Y2   | 0.806 | 0.7 | Valid |
|                                      | Y3   | 0.818 | 0.7 | Valid |
|                                      | Y4   | 0.809 | 0.7 | Valid |
|                                      | Y5   | 0.812 | 0.7 | Valid |
|                                      | Y6   | 0.824 | 0.7 | Valid |
|                                      | Y7   | 0.828 | 0.7 | Valid |
|                                      | Y8   | 0.818 | 0.7 | Valid |
|                                      | Y9   | 0.808 | 0.7 | Valid |
|                                      | Y10  | 0.802 | 0.7 | Valid |
|                                      | Y11  | 0.814 | 0.7 | Valid |
|                                      | Y12  | 0.828 | 0.7 | Valid |
| <i>Courier Logistics Performance</i> | Z1   | 0.747 | 0.7 | Valid |
|                                      | Z2   | 0.781 | 0.7 | Valid |
|                                      | Z3   | 0.751 | 0.7 | Valid |
|                                      | Z4   | 0.801 | 0.7 | Valid |
|                                      | Z5   | 0.791 | 0.7 | Valid |
|                                      | Z6   | 0.807 | 0.7 | Valid |
|                                      | Z7   | 0.801 | 0.7 | Valid |
|                                      | Z8   | 0.721 | 0.7 | Valid |
|                                      | Z9   | 0.801 | 0.7 | Valid |
|                                      | Z10  | 0.774 | 0.7 | Valid |
|                                      | Z11  | 0.809 | 0.7 | Valid |
|                                      | Z12  | 0.724 | 0.7 | Valid |

Source : Data Processed from SmartPLS Algorithm (2025)

The findings presented in Table 2 show that the majority of indicators satisfy the minimum required threshold. This indicates that the indicators contribute significantly to representing the latent constructs. Accordingly, the variables in this research model can be regarded as having achieved convergent validity, as each indicator exhibits a strong correlation in measuring the same underlying construct.

### Discriminant Validity

Discriminant validity is assessed to verify that each latent construct is empirically unique and distinct from other variables within the structural model. As noted by Purwantoro (2026), this evaluation utilizes the Heterotrait–Monotrait Ratio (HTMT), a method that evaluates the ratio of between-trait correlations to within-trait correlations. The results of this

HTMT analysis are detailed in Table 3, serving to confirm the distinctiveness of the measurement model's components.

**Table 4. Discriminant Validity Test Results**

|                               | Logistics Service Quality | Logistics Tariff | Advanced Technology | Customer Satisfaction | Courier Logistics Performance |
|-------------------------------|---------------------------|------------------|---------------------|-----------------------|-------------------------------|
| Logistics Service Quality     |                           |                  |                     |                       |                               |
| Logistics Tariff              | 0.479                     |                  |                     |                       |                               |
| Advanced Technology           | 0.536                     | 0.786            |                     |                       |                               |
| Customer Satisfaction         | 0.101                     | 0.535            | 0.555               |                       |                               |
| Courier Logistics Performance | 0.059                     | 0.489            | 0.527               | 0.083                 |                               |

Source : Data Processed from SmartPLS Algorithm (2025)

The discriminant validity results, as detailed in Table 3, confirm that all constructs within the structural model adhere to the requisite statistical criteria. Utilizing the Heterotrait–Monotrait Ratio (HTMT) as the evaluative benchmark, all inter-construct coefficients remained consistently below the 0.90 threshold. These findings indicate that the model is free from discriminant validity concerns, thereby establishing that each latent variable represents a unique empirical phenomenon without conceptual overlap (Purwantoro, 2026).

**Reliability Test**

To ensure the internal consistency and stability of the measurement scales, this study adopted the reliability criteria proposed by Hasnita (2021). This involved an analysis of Cronbach’s Alpha, Rho A, and Composite Reliability all of which must exceed 0.7 alongside the Average Variance Extracted (AVE), which requires a minimum value of 0.5. These metrics verify that the latent variables are accurately captured by their respective indicators. The specific reliability coefficients for each construct are summarized in the following table.

**Table 5. Reliability Test Results**

| Variable                      | Cronbach's Alpha | rho_A | Composite Reliability | Average Variance Extracted (AVE) | Decision |
|-------------------------------|------------------|-------|-----------------------|----------------------------------|----------|
| Logistics Service Quality     | 0,918            | 0,919 | 0,931                 | 0,576                            | Reliable |
| Logistics Tariff              | 0,910            | 0,913 | 0,925                 | 0,552                            | Reliable |
| Advanced Technology           | 0,860            | 0,863 | 0,895                 | 0,588                            | Reliable |
| Customer Satisfaction         | 0,954            | 0,954 | 0,959                 | 0,663                            | Reliable |
| Courier Logistics Performance | 0,940            | 0,942 | 0,948                 | 0,603                            | Reliable |

Source : Data Processed from SmartPLS Algorithm (2025)

In accordance with the findings in Table 4, all constructs successfully adhere to the established reliability benchmarks. This is substantiated by the Cronbach’s Alpha, Rho A, and Composite Reliability coefficients all of which exceed the 0.7 threshold and Average Variance Extracted (AVE) values surpassing 0.5. Following the criteria of Hasnita (2021), these results confirm the internal consistency of the constructs. Given that the measurement

model has demonstrated both validity and reliability, the research instrument is deemed suitable for further structural analysis using SmartPLS.

**Coefficient of Determination Test (R<sup>2</sup>)**

To assess the degree to which the independent constructs explain the variance in the endogenous variables, the R<sup>2</sup> value is utilized as the primary evaluative criterion. As noted by Hair et al. (2021) in Nasrudin (2025), the strength of this predictive power is assessed on a scale where 0.75, 0.50, and 0.25 represent strong, moderate, and weak effects, respectively. A higher R<sup>2</sup> indicates a more robust model capable of accurately predicting organizational outcomes within the courier service sector.

**Table 6. R-Square Test Results**

| Simultan Effect   | Endogen Variable              | R Square | R Square Adjusted |
|---|-------------------------------|----------|-------------------|
| Logistics Service Quality<br>Logistics Tariff<br>Advanced Technology                          | Customer Satisfaction         | 0.688    | 0,686             |
| Logistics Service Quality<br>Logistics Tariff<br>Advanced Technology<br>Customer Satisfaction | Courier Logistics performance | 0.628    | 0,625             |

*Source : Data Processed from SmartPLS Algorithm (2025)*

The R<sup>2</sup> values presented in Table 5 provide insight into the model's explanatory capacity. The analysis reveals an R<sup>2</sup> value of 0.688 for Customer Satisfaction, demonstrating that Logistics Service Quality, Logistics Tariff, and Advanced Technology collectively account for 68.8% of its variance. Furthermore, courier logistics performance yielded an R<sup>2</sup> of 0.628, indicating that 62.8 of the variance in performance is jointly explained by the predictors and the mediating variable within the structural framework.

**F-square Analysis**

To evaluate the relative impact of individual predictors, F-square values were assessed following the criteria of Hair et al. (2017). The analysis reveals a stark contrast in effect sizes across different endogenous constructs. While Logistics Service Quality, Logistics Tariff, and Advanced Technology all manifest large substantive impacts on Customer Satisfaction, their direct contributions to courier logistics performance are categorized as small. This suggests that while operational factors are primary drivers of satisfaction, their direct influence on overall corporate performance is more constrained within the current structural model.

**Table 7. F-Square Test Results**

|                               | Logistics Service Quality | Logistics Tariff | Advanced Technology | Customer Satisfaction | Courier Logistics Performance |
|-------------------------------|---------------------------|------------------|---------------------|-----------------------|-------------------------------|
| Logistics Service Quality     |                           |                  |                     | 0.671                 | 0.128                         |
| Logistics Tariff              |                           |                  |                     | 0.694                 | 0.109                         |
| Advanced Technology           |                           |                  |                     | 0.627                 | 0.091                         |
| Customer Satisfaction         |                           |                  |                     |                       | 0.105                         |
| Courier Logistics Performance |                           |                  |                     |                       |                               |

Source : Data Processed from SmartPLS Algorithm (2025)

**Hypotheses Test**

In accordance with Waskito (2023), hypothesis testing was conducted by evaluating the t-statistics in relation to critical t-table values and assessing the associated significance levels. A t-statistics exceeding the critical threshold alongside a p-value below 0.05 denotes a statistically significant relationship between the exogenous and endogenous constructs. As a fundamental step in empirical validation, path coefficient evaluation was performed using the bootstrapping technique a standard procedure in Partial Least Squares (PLS) analysis to determine the strength and direction of the hypothesized effects, as summarized in the following table.

**Table 8. Hypotheses Test Results**

|  | Original Sample (O) | Sample Mean (M) | Standard Deviation (STDEV) | T Statistics ((O/STDEV)) | P Values |
|--|---------------------|-----------------|----------------------------|--------------------------|----------|
| Logistics Service Quality -> Customer Satisfaction         | 0.460               | 0.461           | 0.033                      | 14.098                   | 0.000    |
| Logistics Tariff -> Customer Satisfaction                  | 0.466               | 0.465           | 0.028                      | 16.817                   | 0.000    |
| Advanced Technology -> Customer Satisfaction               | 0.444               | 0.444           | 0.029                      | 15.082                   | 0.000    |
| Logistics Service Quality -> Courier Logistics Performance | 0.283               | 0.286           | 0.040                      | 7.082                    | 0.000    |
| Logistics Tariff -> Courier Logistics Performance          | 0.262               | 0.264           | 0.038                      | 6.884                    | 0.000    |
| Advanced Technology -> Courier Logistics Performance       | 0.236               | 0.238           | 0.038                      | 6.273                    | 0.000    |

|  |       |       |       |       |       |
|--|-------|-------|-------|-------|-------|
| Customer Satisfaction -> Courier Logistics Performance | 0.354 | 0.349 | 0.055 | 6.437 | 0.000 |
|--|-------|-------|-------|-------|-------|

Source : Data Processed from SmartPLS Algorithm (2025)

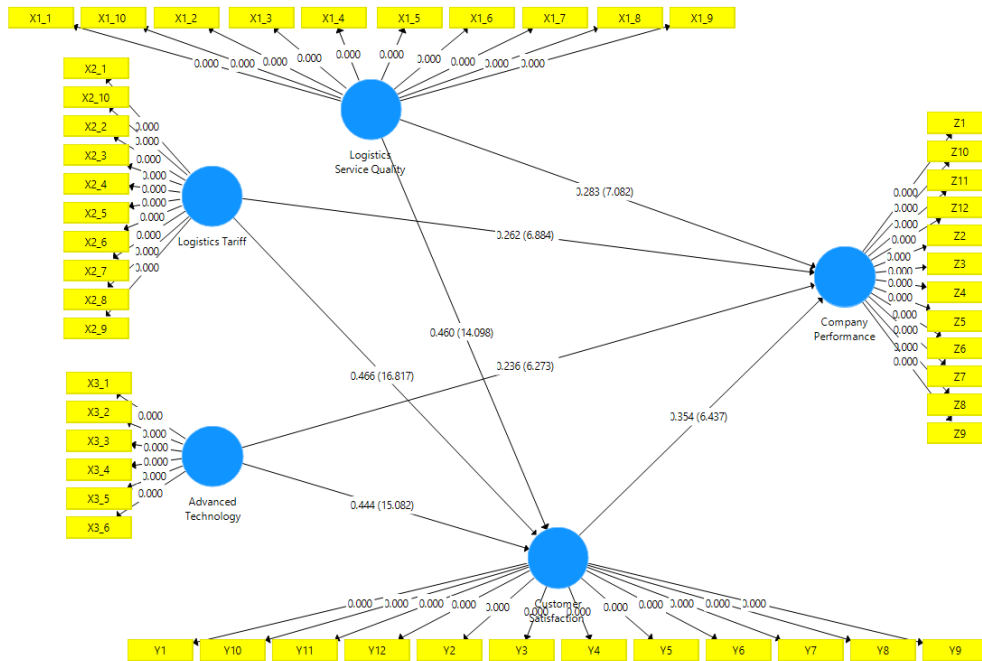


Figure 2. Bootstrapping Result

Evidence from the structural model indicates a strong positive relationship between the exogenous constructs and the mediating variable. Specifically, Logistics Service Quality, Logistics Tariff, and Advanced Technology demonstrated positive effects on Customer Satisfaction with path coefficients of 0.460, 0.466, and 0.444, respectively. Moreover, the t-statistics for these relationships were 14.098, 16.817, and 15.082, respectively, all exceeding the critical threshold. These findings underscore that for PT Satria Antaran Prima Tbk, optimizing service delivery, maintaining competitive tariffs, and leveraging advanced digital tools significantly improve overall customer satisfaction.

Furthermore, the structural analysis reveals that Logistics Service Quality, Logistics Tariff, and Advanced Technology significantly contribute to courier logistics performance, with path coefficients of 0.283, 0.262, and 0.236, respectively. The corresponding t-statistics were 7.082, 6.884, and 6.273 ( $p < 0.05$ ). Additionally, Customer Satisfaction was found to exert a significant positive influence on courier logistics performance, with a path coefficient of 0.354 and a t-statistic of 6.437 ( $p < 0.05$ ). These findings support the acceptance of all proposed hypotheses, confirming that operational factors and customer satisfaction are critical determinants of courier logistics performance.

**Mediation Effect Analysis**

In accordance with the framework proposed by Nasrudin (2025), mediation analysis was conducted to determine if a specific mediator facilitates the path between exogenous constructs and endogenous outcomes. This process involves evaluating the indirect influence of the predictors through the mediating variable to assess the nature of these relationships.

The statistical results of this indirect effect analysis, focusing on the role of Customer Satisfaction, are detailed in Table 8.

**Table 9. Mediation Effect Analysis**

|   | <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> |
|---|----------------------------|------------------------|-----------------------------------|--------------------------------|-----------------|
| Logistics Service Quality -> Customer Satisfaction -> Courier Logistics Performance | 0.163                      | 0.161                  | 0.028                             | 5.790                          | <b>0.000</b>    |
| Logistics Tariff -> Customer Satisfaction -> Courier Logistics Performance          | 0.165                      | 0.162                  | 0.028                             | 5.954                          | <b>0.000</b>    |
| Advanced Technology -> Customer Satisfaction -> Courier Logistics Performance       | 0.157                      | 0.155                  | 0.026                             | 6.121                          | <b>0.000</b>    |

*Source : Data Processed from SmartPLS Algorithm (2025)*

The mediation test results in Table 8 indicate that Customer Satisfaction significantly mediates the relationships between Logistics Service Quality, Logistics Tariff, and Advanced Technology with courier logistics performance. The indirect effects produced path coefficients of 0.163, 0.165, and 0.157, respectively, with corresponding t-statistics of 5.790, 5.954, and 6.121 ( $p < 0.05$ ).

These findings suggest that each independent variable not only exerts a direct effect on courier logistics performance but also generates an indirect effect through Customer Satisfaction. Therefore, all proposed hypotheses are accepted, confirming the significant mediating role of Customer Satisfaction in improving courier logistics performance at PT Satria Antaran Prima Tbk.

**CONCLUSION**

Empirical evidence suggests that Logistics Service Quality, Logistics Tariff, and Advanced Technology exert a substantial impact on Customer Satisfaction, as evidenced by F-square values surpassing the 0.35 threshold. This is corroborated by descriptive analysis, which places respondent perceptions within the 'good' range (4.10–4.19), indicating that SAP Express’s operational framework effectively aligns with customer expectations in the Jakarta market. Furthermore, the study identifies a significant positive relationship between Customer Satisfaction and courier logistics performance (path coefficient = 0.354 and  $t = 6.437$ ), with satisfaction acting as a pivotal mediator. These insights suggest that the observed contractions in gross profit despite revenue growth can be mitigated by optimizing these three determinants to bolster customer loyalty and drive sustainable repeat patronage.

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