E-ISSN : 2715-4203
P-ISSN : 2715-419X
DINASTI INTERNATIONAL JOURNAL OF DIGITAL BUSINESS AND MANAGEMENT (DIJDBM)
DINASTI PUBLISHER
https://dinastipub.org/DIJDBM dinasti.info@gmail.com +62 811 7404 455

DOI: https://doi.org/10.31933/dijdbm.
Received: 30 October 2023, **Revised:** 14 November 2023 **Publish:** 30 November 2023
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The Effect Of Delivery Speed And Product Conditions On Customer Satisfaction Of Regular Postal Services Pt. Pos Indonesia (Persero) In Bandung City

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Abstract: This study aims to explore the impact of delivery speed and product condition on customer satisfaction using Regular Postal services from PT Pos Indonesia (Persero) in Bandung City. Data were collected through a survey of 100 regular post customers in the city. Data analysis using probability sampling techniques with the simple random sampling method shows that both delivery speed and product condition have a significant effect on Regular Post customer satisfaction. These findings indicate the importance of improvements in delivery service and product quality to increase customer satisfaction. The managerial implications of this study suggest that PT Pos Indonesia (Persero) should prioritise these aspects to improve customer satisfaction and maintain its position in the logistics market. Theoretically, this research makes an important contribution to the understanding of the factors that influence customer satisfaction in the context of courier services.

Keyword: Delivery Speed, Product Condition, Customer Satisfaction, Regular Postal Service

INTRODUCTION

In today's digital era, the logistics and shipping sector plays a very important role in supporting economic and trade activities. PT Pos Indonesia, as one of the oldest and largest logistics companies in Indonesia, continues to strive to improve its services to meet customer needs and expectations. In the midst of increasingly fierce competition, especially with the emergence of various private logistics companies and fast delivery services, PT Pos Indonesia must focus on two key aspects that greatly affect customer satisfaction: delivery speed and product condition when received.

Delivery speed is one of the key factors in determining the level of customer satisfaction (Rosyada et al., 2020; Thalib & Wulandjani, 2021) Modern consumers expect fast and timely delivery. Delays in delivery can result in dissatisfaction, which in turn negatively affects the company's reputation. In addition, the condition of the product when received is equally important. A product received in good condition, without damage, demonstrates a company's professionalism and attention to detail, which can increase customer trust and satisfaction.

A study by McKinsey & Company shows that 25% of consumers are willing to pay more for same-day delivery. The report states, 'Fast delivery is now the new standard in

eCommerce. Consumers expect the items they buy online to arrive in a very short time, often within a day or two, if not the same day.

Bandung, as one of the major cities in Indonesia, has a high level of economic activity and trade. This creates a great need for reliable and efficient delivery services. Therefore, it is important to evaluate how the speed of delivery and the condition of the products received by customers in Bandung City affect their level of satisfaction with PT Pos Indonesia's regular postal services.

This study aims to fill the existing knowledge gap by analysing the influence of these two factors on customer satisfaction. The findings from this study are expected to provide valuable insights for PT Pos Indonesia in their efforts to improve their service quality, and can serve as a reference for other courier companies in designing better service strategies.

According to Yossi Sheffi (2015), speed of delivery is an important indicator of logistics performance that measures how quickly goods can move from the point of production to the point of consumption. It includes all activities that support the fast delivery process, including inventory management, transport, and order processing (Sheffi, 2015). While according to McKinsey & Company (2023) speed of delivery is the ability to deliver goods in the shortest possible time after an order is placed. It involves optimising distribution networks, using advanced technology, and improving efficiency at every stage of the supply chain to ensure goods arrive in the hands of consumers quickly and on time. These definitions show that speed of delivery is not only about how fast goods get to consumers, but also involves efficiency and optimisation of the entire supply chain process to meet customer expectations.

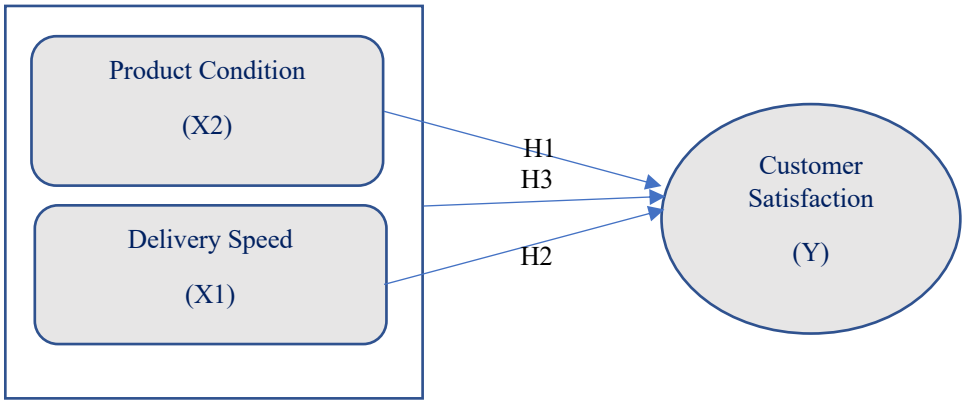
The condition of goods refers to the physical state and quality of the goods when received by consumers. This includes aspects such as damage, integrity, and conformity to promised specifications. Good condition of goods is an indicator of an effective and efficient supply chain, which is able to maintain product quality from the factory to the consumer (Wilding, 2018). Meanwhile, CSCMP (2020) defines goods condition as a measure of the physical state of goods at the time of receipt by the customer. This includes an assessment of damage, cleanliness, and product conformity to the promised description or specifications. The aforementioned definitions indicate that the condition of goods covers various physical aspects and the quality of the product that is maintained throughout the logistics process, from the shipper to the end consumer.

Customer satisfaction is an overall evaluation of a product or service that is based on the customer's perception of the performance of the product or service compared to their expectations (Oliver, 2010). Customer satisfaction is a feeling of pleasure or disappointment that a person has that comes from the results of his impression between the perceived performance of a product and his expectations (Kotler, 2003). Customer satisfaction is the customer's response to the evaluation of perceived dissatisfaction (disconfirmation) between previous expectations or other performance expectations and the actual performance of the product felt after using it (Tjiptono & Chandra, 2011).

By understanding the dimensions of customer satisfaction, companies can identify areas that need to be improved in an effort to increase customer satisfaction and maintain their loyalty. The following are indicators of customer satisfaction according to Kotler Keller & Kotles (2015) as follows: 1) Customer Complaints: The number and type of complaints filed by customers; 2) Repurchase Rate: The percentage of customers who return to buy a product or service; 3) Customer Loss Rate: The percentage of customers who stop using the product or service; 4) Recommendation Rate: The percentage of customers who recommend the product or service to others (Keller & Kotler, 2015).

Conceptual Framework

The thinking framework is a conceptual model of how theory relates to various factors that have been identified as important problems (Sugiyono, 2013). A good framework will explain theoretically the relationship between the variables to be studied. The framework or framework of thought is the rationale for research that is synthesised from facts, observations, and literature reviews (Mulyadi, 2012). The framework in this study can be seen from the following diagram (Figure 2).



Source: Research Results

Figure 1. Conceptual Framework

Hypothesis:

1. There is a positive influence between the speed of delivery of Regular Post services on the level of customer satisfaction of PT Pos Indonesia in the city of Bandung.
2. There is a positive influence between the condition of the products received by Regular Post service customers on the level of customer satisfaction of PT Pos Indonesia in the city of Bandung.
3. There is a positive influence between the speed of delivery and the condition of the goods simultaneously on the customer satisfaction of the Regular Post service of PT Pos Indonesia in the city of Bandung.

METHOD

In this study, the object of study was the people of Bandung city who use regular postal services. This study uses quantitative methods. Quantitative research method is one type of research that has a clear, systematic, and planned structure from the beginning to the end of the research. Quantitative research is a type of research that produces results using quantification (measurement) techniques or statistical procedures (Sujarweni & Utami, 2019). To test the hypothesis that has been set, random sampling techniques are used and data is collected using research tools (Sugiyono, 2013).

The population used in this study is the people of Bandung city who use regular postal services whose numbers are unknown. For this reason, the sample determination uses the Bernoulli formula with the result of 96.04 samples rounded up to 100 samples. The sampling technique in this study used probability sampling and simple random sampling. Data collection was conducted through interviews using a checklist questionnaire; respondents only need to choose one of the various answers available. Data were analysed in a descriptive and quantitative manner. Descriptive analysis shows the product condition, delivery speed, and the impact of customer satisfaction on regular postal delivery services. Meanwhile, quantitative analysis examines a specific numerical sample and tests the established hypotheses.

Answers from respondents in this study used answer choices with a Likert scale of 1-5, consisting of 1 (strongly disagree), 2 (disagree), 3 (less agree), 4 (agree), and 5 (strongly

agree). To find out that the instrument used is valid and reliable, it is tested using validity and reliability tests. The validity test uses product moment (r count), while the reliability test uses Cronbach Alpha (α). Meanwhile, the data analysis technique uses the Classical Assumption Test in the form of normality, multicollinearity, and heteroscedasticity tests. This study also uses multiple linear regression analysis techniques. In this analysis, there is a coefficient of determination (R2) test to see the model's ability to explain the variation in the dependent variable. Meanwhile, to prove the research hypothesis, using the t test (partial test) and F test (simultaneous test).

RESULTS AND DISCUSSION

Validity test

The following validity test results use IBM SPSS Statistics version 25:

Table 1. Summary of Validity Tests per indicator X1, X2, Y.

Variable	*Item* Variable	r count	r table	Conclusion
Delivery Speed (X1)	X1.1	0.437	0.1966	Valid
	X1.4	0.307	0.1966	Valid
	X1.7	0.442	0.1966	Valid
	X1.10	0.549	0.1966	Valid
	X1.13	0.426	0.1966	Valid
	X1.17	0.327	0.1966	Valid
Product Condition (X2)	X2.1	0.459	0.1966	Valid
	X2.4	0.451	0.1966	Valid
	X2.7	0.439	0.1966	Valid
	X2.10	0.589	0.1966	Valid
	X2.13	0.674	0.1966	Valid
	X2.16	0.530	0.1966	Valid
	X2.19	0.621	0.1966	Valid
Customer Satisfaction (Y)	Y1	0.455	0.1966	Valid
	Y4	0.677	0.1966	Valid
	Y7	0.464	0.1966	Valid
	Y10	0.677	0.1966	Valid
	Y13	0.701	0.1966	Valid

Source: IBM SPSS 25 Data Processing Results

Based on Table 1 above, where all the values of r count> r table, it can be concluded that all research instruments on the variable delivery speed (X1), Product Condition and Costomer Satisfaction (Y) have been declared valid so that they can be continued for the next test.

Reliability Test

The following reliability test results use IBM SPSS Statistics version 23:

Table 2 Reliability Test

Variable	*Cronbach Alpha (α)*	Minimum Value	Conclusion

Delivery Speed (X1)	0.817	0.6	Reliabel
Product Condition (X2)	0.906	0.6	Reliabel
Customer Satisfaction(Y)	0.910	0.6	Reliabel

Source: IBM SPSS 25 Data Processing Results

Based on Table 2, it can be concluded that all instruments on the variables of delivery speed, product quality, and customer satisfaction have met the reliability criteria because the Cronbach's Alpha value is greater than 0.6. So that the classic assumption test can be continued.

Classical Assumption Test Results

Normality Test

Normality test results using IBM SPSS Statistics version 23:

Table 1 Normality Test Results

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		100
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	4.26584670
Most Extreme Differences	Absolute	.077
	Positive	.055
	Negative	-.077
Test Statistic		.077
Asymp. Sig. (2-tailed)		.156[c]

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

Source: IBM SPSS 25 Data Processing Results

Based on Table 3, it can be concluded that the variables of delivery speed, product quality, and customer satisfaction in this study are normally distributed because the Sig (2-tailed) value is 0.156> 0.05.

Multicollinearity Test

The following table shows the results of the multicollinearity test using IBM SPSS Statistics version 23:

Table 4. Table of Multicollinearity Test Results

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	Delivery Speed(X1)	.373	2.680
	Product Condition(X2)	.373	2.680

a. Dependent Variable: Y

Source: IBM SPSS 25 Data Processing Results

Heteroscedasticity Test

The following table shows the results of the heteroscedasticity test using IBM SPSS Statistics version 23:

Table 5. Table of Heteroscedasticity Test Results

Coefficients[a]						
		Unstandardized Coefficients		*Standardized Coefficients*		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	11.497	3.551		3.238	.002
	Delivery Speed (X1)	-.079	.074	-.174	-1.078	.284
	Product Condition(X2)	-.023	.056	-.066	-.410	.683

a. *Dependent Variable*: Customer Satisfaction (Y)

Source: IBM SPSS 25 Data Processing Results

Based on table 5 above, it is known that the significance value of the delivery speed variable is 0.284> the degree of significance (0.05), the significance value of the product condition variable is 0.683> the degree of significance (0.05). Of the two variables, there is no heteroscedasticity problem or it can be said to be homoscedasticity. Thus, it can be concluded that there is no heteroscedasticity problem, so that a good and ideal regression model is fulfilled.

Data Analysis Results

Multiple Linear Regression Analysis Test

The following table shows the results of the multiple linear regression analysis test using IBM SPSS Statistics version 25:

Table 6. Multiple Linear Regression Analysis Test Results

Coefficients[a]						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	-16.046	5.647		-2.841	.005
	X1	.658	.117	.533	5.621	.000
	X2	.310	.089	.331	3.493	.001

a. Dependent Variable: Y

Source: IBM SPSS 25 Data Processing Results

Based on the table above, it can be seen that the equation model produced in this research is:

$$Y = \alpha + \beta_1 X1 + \beta_2 X2 + \beta_3 X3 + e$$

$$Y - 16.046 + 0.658X1 + 0.310X2 + e$$

Test Coefficient of Determination (R2)

The following table shows the results of multiple linear regression analysis tests using IBM SPSS Statistics version 25:

Table 7. Test Results of the Coefficient of Determination (R2)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.821[a]	.674	.667	4.310
a. Predictors: (Constant), X2, X1				

Source: IBM SPSS 25 Data Processing Results

Based on the table above, it can be seen that the value obtained is 0.667. This means that the variation of the two variables, namely delivery speed (X1), product quality (X2) contributes to customer satisfaction (Y) by 67% while the other 33% can be explained by other variables not included in the study.

Hypothesis Test Results

Test t (partial test)

The following table shows the results of the t test (partial test) using IBM SPSS Statistics version 25:

Table 8 t test results

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-16.046	5.647		-2.841	.005
	X1	.658	.117	.533	5.621	.000
	X2	.310	.089	.331	3.493	.001
a. Dependent Variable: Y						
T tabel			**Df=97, α= 0,05 hasilnya 1.660**			

Source: IBM SPSS 25 Data Processing Results

Based on Table 5, it can be seen that the variable delivery speed (X1) obtained t value> t table (5.621> 1.660) and product quality (X2) obtained t value> t table (3.493> 1.660) with a significant level of 0.05 or 5%, Ho is rejected and Ha is accepted, meaning that the variable delivery speed (X1) and product quality (X2) has a partial influence on customer satisfaction.

F Test (Simultaneous Test)

The following table shows the results of the F test (simultaneous test) using IBM SPSS Statistics version 25:

Table 9. F Test Results

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3727.363	2	1863.681	100.345	.000[b]
	Residual	1801.547	97	18.573		
	Total	5528.910	99			
a. Dependent Variable: Y						
b. Predictors: (Constant), X2, X1						
F tabel			**Df 1 = 2, df 2 = 97, α = 0.05 the result = 3.09**			

Source: IBM SPSS 25 Data Processing Results

Based on Table 9, it can be seen that the calculated F value is 100.345. Thus, it can be seen that the variable delivery speed (X1), product quality (X2) simultaneously affects

customer satisfaction (Y) of regular postal delivery services in a real or significant manner, because F count is greater than F table.

Discussion

The Effect of Delivery Speed and Product Quality on Customer Satisfaction

This study clearly proves that there is a simultaneous influence or interaction between delivery speed (X1), and product conditions (X2), on customer satisfaction (Y) in the regular postal delivery service of PT Pos Indonesia (Persero) in Bandung City. The results of data analysis show that the variable speed of delivery (X1), and product conditions (X2), together have a real and significant impact on customer satisfaction (Y) in the context of regular postal delivery services of PT Pos Indonesia (Persero). The results show that the significance value is lower than the α = 5% value. According to Kotler and Keller (2012), high delivery speed has been shown to increase customer satisfaction and encourage them to make repeat purchases. And according to Oliver (1997), high-quality products not only increase customer satisfaction but also build strong loyalty to the brand or product.

This research is also in accordance with previous research conducted by Siwi & Wahyudi (2023) and Risnawati & Manurung (2019). Siwi & Wahyudi in their research 'The Effect of Service Quality, Delivery Timeliness and Facilities on Customer Satisfaction of PT Sicepat Ekspres Jatisampurna Bekasi' found that delivery timeliness is one of the variables that has a significant effect on customer satisfaction. Meanwhile, Risnawati & Manurung in their research 'The Effect of Product Quality and Service Quality on Customer Satisfaction at CV Multi Usaha Raya Jepara' found that product quality has a positive and significant effect on customer satisfaction. These two studies show that both timeliness of delivery and product quality are important factors that affect customer satisfaction.

Effect of Delivery Speed on Customer Satisfaction

Based on data analysis and hypothesis testing, it is revealed that the variable delivery speed has a positive and significant effect on customer satisfaction. This finding is in line with previous research conducted by Taufiqul Huda (2023) in their study on 'the effect of service quality, on-time delivery and facilities on customer satisfaction at J&T Grati Pasuruan'. The study confirmed that market segmentation has a positive and significant influence on customer satisfaction (Huda, 2023). From the results of this study, it can be concluded that on time delivery is directly related to customer satisfaction at J&T Grati, Pasuruan. The positively significant t-value indicates that meeting delivery deadlines consistently has a significant effect on customer satisfaction. This conclusion supports the theory put forward by Handoko, which emphasises the importance of on-time delivery and safety of ordered products in building consumer trust and loyalty. Therefore, the ability to meet consumer expectations of delivery times can be considered a key factor in increasing satisfaction and maintaining customer loyalty.

Effect of Product Condition on Customer Satisfaction

The results of the analysis and hypothesis testing show that the product condition variable has a positive and significant effect on customer satisfaction. According to this, it is in line with research conducted by Nada Dwi Putri, Dewiana Novitasari, Teguh Yuwono, Masduki Asbari (2021) with the title of the effect of product quality and service quality on customer satisfaction which suggests that the relationship between product quality (X1) and customer satisfaction (Y) shows a correlation coefficient of 0.641, which indicates a positive and strong relationship (Putri et al., 2021).

CONCLUSIONS AND SUGGESTIONS

Conclusion

Based on the results of the research that has been conducted, it can be concluded that delivery speed and product condition have a significant influence on customer satisfaction of PT Pos Indonesia (Persero) Regular Post in Bandung City. The analysis shows that increasing delivery speed is positively associated with increasing customer satisfaction scores, especially for those who consider delivery to be fast or very fast. Meanwhile, product condition also significantly affected customer satisfaction. Customers who rated product quality as good or very good tended to give higher satisfaction scores. Delivery speed and product condition also have a simultaneous effect on customer satisfaction of PT Pos Indonesia's regular postal services in Bandung city. An increase in these two independent factors tends to be followed by an increase in customer satisfaction as the dependent factor.

Suggestions

For future studies, there are several suggestions to improve understanding of the factors that influence customer satisfaction at PT Pos Indonesia (Persero). Expanding the scope of research variables by considering additional factors that can have a significant impact on customer satisfaction, such as product prices, customer service quality, and overall experience in using services, needs to be explored further. This will provide a more holistic and in-depth picture of customer priorities in building satisfaction with postal services. In addition, it is important to take a larger and more diverse sample to improve accurate representation of the customer population as well as allow for more in-depth analysis and more reliable generalisation of the research results. Thus, the resulting findings and recommendations will be more relevant and useful for companies in making strategic decisions.

The implementation of long-term research is highly recommended, as this approach allows PT Pos Indonesia (Persero) to monitor changes in delivery speed and product condition over time, as well as their impact on customer satisfaction. By implementing this approach, the company can continuously improve service quality, strengthen its position in the market, and build stronger relationships with customers. It can also help increase customer loyalty, as well as ensure sustainability and sustainable business growth.

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