

The Effect of Timeliness, Shipping Rates and Security of Goods on Customer Satisfaction of PT JNE in East Jakarta

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Abstract. This study was conducted at PT JNE East Jakarta to examine the impact of timeliness (X1), shipping rates (X2), and security of goods (X3) on customer satisfaction (Y). The research sampled 130 customers using probability sampling techniques. Data were collected through observations, literature reviews, and questionnaires. Analytical methods included validity and reliability tests, classical assumption tests, and hypothesis testing using SPSS 26 software. The F-test results indicated a calculated F value of 137.742, exceeding the F table value, thus rejecting H_0 and accepting H_a . This demonstrates that timeliness, shipping rates, and goods security significantly affect customer satisfaction at PT JNE East Jakarta. Furthermore, the R square value of 76.6% signifies that these factors contribute substantially to customer satisfaction, while the remaining 23.4% is influenced by other factors not covered in this study

Keywords : timeliness, shipping rates, security of goods, customer satisfaction

Abstrak. Penelitian ini dilakukan di PT JNE Jakarta Timur untuk mengkaji dampak ketepatan waktu (X1), tarif pengiriman (X2), dan keamanan barang (X3) terhadap kepuasan pelanggan (Y). Penelitian ini mengambil sampel 130 pelanggan menggunakan teknik pengambilan sampel probabilitas. Data dikumpulkan melalui observasi, tinjauan literatur, dan kuesioner. Metode analitik meliputi uji validitas dan reliabilitas, uji asumsi klasik, dan pengujian hipotesis menggunakan perangkat lunak SPSS 26. Hasil F-test menunjukkan nilai F yang dihitung sebesar 137,742, melebihi nilai tabel F, sehingga menolak H_0 dan menerima H_a . Hal ini menunjukkan bahwa ketepatan waktu, tarif pengiriman, dan keamanan barang secara signifikan mempengaruhi kepuasan pelanggan di PT JNE Jakarta Timur. Selain itu, nilai R kuadrat sebesar 76,6% menandakan bahwa faktor-faktor ini berkontribusi secara substansial terhadap kepuasan pelanggan, sedangkan 23,4% sisanya dipengaruhi oleh faktor-faktor lain yang tidak tercakup dalam penelitian ini.

Kata Kunci : ketepatan waktu, tarif pengiriman, keamanan barang, kepuasan pelanggan

1. Introduction

The rise in e-commerce sales is propelling the freight forwarding industry's rapid expansion in this era of globalization and digitalization. By the end of 2023, the global e-commerce market is projected to be worth \$6.3 trillion, and by 2026, it is predicted to have grown to \$8.1 trillion. Delivery services have been widely adopted as a result of the COVID-19 epidemic, and they are now indispensable for meeting everyday demands. With so many new businesses entering the market and providing cutting-edge services at affordable prices, the delivery services sector is very competitive. This motivates well-established businesses to keep coming up with new ideas and raising the caliber of existing offerings, such same-day delivery and alternatives for pick-up at

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particular places. Consumers want prompt delivery, reasonable prices, and assurances of safety from delivery providers.

One of the main elements influencing client happiness is on-time delivery. Consumers anticipate receiving their purchases on schedule. Customers get dissatisfied and lose trust when services are delayed. The weight and size of the items, the shipping distance, the kind of service, insurance, the shipment destination, and special offers and discounts all have an impact on the cost of shipping. In the delivery services sector, the safety of the items during delivery is crucial. Customers anticipate receiving their purchases undamaged and in good shape. The reputation of the business and consumer satisfaction are impacted by product safety. The degree to which the services match or beyond the expectations of the client is a key indicator of customer satisfaction. Customer satisfaction is crucial in the delivery service sector since it influences client loyalty and referrals to others.

Table 1 Top Courier Service Brand Index

Merek	2020	2021	2022	2023	2024
JNE	27,30%	28,00%	39,30%	29,10%	11,50%
J&T	21,30%	33,40%	23,10%	33,30%	50,90%
TIKI	10,80%	11,20%	11,10%	10,60%	10,20%
POS INDONESIA	7,70%	8,50%	8,50%	7,30%	9,40%
DHL	4,10%	6,00%	6,90%	7,20%	4,10%

Source: Top Brand Award (www.topbrand-awards.com)

As can be observed from the above table, JNE emerged as the leading delivery service in Indonesia in 2020 and 2022, but since 2021 and 2023, it has fallen to second place, with its rival J&T ranking first. As a result, JNE needs to preserve its good name in order to avoid losing customers and becoming less competitive with other delivery services..

Since the COVID-19 pandemic, the surge in shipping volume due to the increase in online shopping has created new challenges in maintaining on-time delivery; the centralized distribution system at the main warehouse frequently causes delays, especially for distant destination addresses; some customers have complained of unscheduled delivery delays, despite the implementation of real-time tracking technology. JNE uses real-time tracking technology to monitor shipment status and ensure goods arrive on time, as well as providing express delivery services for urgent needs.

Regarding the security of the items, JNE gives clients advice on how to package their purchases and provides choices for shipping insurance. The primary issue is the loss of merchandise during shipping, which can harm the business's standing. Errors in address writing and outside variables like inclement weather might also compromise the security of the cargo. To keep commodities safe, JNE must guarantee proper training, monitoring, and a backup plan. Based on the background of the problems described earlier, the authors can identify the problems that exist in the research

phenomenon, namely: (1) Delivery delays are not on schedule resulting in lower customer satisfaction, (2) Shipping Rates are slightly more expensive than other competitors, (3) Frequent customer loss of goods thus affecting customer satisfaction, (4) Tracking services that are not always accurate, (5) Often customers receive goods in damaged condition.

The first goal of this study is to determine how timeliness affects PT JNE customer satisfaction in East Jakarta; the second goal is to determine how Shipping Rates affect PT JNE customer satisfaction in East Jakarta; and the third goal is to determine how goods security affects PT JNE customer satisfaction in East Jakarta. and to determine the impact on PT JNE's East Jakarta customer satisfaction that comes from shipping costs, security of goods, and timeliness all at the same time.

Siti Fatimah (2019) defines transportation as the process of transferring people and/or products from one location to another. There are two primary components to transportation: movement and transportation. The expansion of manufacturing, as well as community and economic development, are all based on transportation. Potential natural resources are created via transportation, which also makes them more accessible and expands the market. Transporting people and/or products from one location to another for a predetermined reason is known as transportation. Since transportation makes it easier to move around and distribute goods and services, it is essential to daily life. Transportation, in the words of Judiantono (2020), is a system that can move people and products between different areas.

Timeliness, in the words of Aminah (2021), is the interval between a customer's order and the product's delivery. The capacity to finish activities or keep promises within a set time frame is known as timeliness. Timeliness, as defined by Pujawan in Aminah (2017), is the supplier's capacity to provide with a small supply lot on schedule. According to Chairil and Ghozali in Lisnasari (2016), timeliness is the use of information by decision-makers before it becomes obsolete. Pujawan in Aminah (2017) lists the following factors as timeliness-affecting indicators: (1) Transportation used, since using the wrong kind of vehicle may cause the delivery of goods to clients to be delayed; (3) The distance traveled due to long distances or remote areas has more difficulty for a courier in sending customer goods, so that delays or mismatches in the estimated time given by the courier often occur. (2) Estimation of goods to the recipient: estimation is a person's estimate of something, either in the form of time, quantity, or quality.

Shipping Rates are a list of costs for consumers of regularly scheduled transportation services, according to Salim (2016). Tjiptono (2019) states that shipping charges are the sum of money that buyers must pay in order to receive goods. Logistics firms and shipping service providers charge shipping prices to move products from one place to another. Anshar & Mashariono state that the following factors affect shipping costs: (1) Price affordability; price compatibility with benefits signifies that the amount consumers pay must be commensurate with the advantages or value they obtain from the good or service; (2) Price consistency with benefits received: This refers to the need that customers' payments be commensurate with the advantages or value they derive from the good or service. (3) Price compatibility with the competitiveness of other similar goods or services; this

requires that the price announced be reasonable when measured against other similar goods or services offered in the marketplace. (4) Price compatibility with product or service quality: This refers to the requirement that the price determined be in line with the caliber of the given good or service.

Lestari (2020) states that the goal of item security is to shield products from potential harm, theft, or loss during the online shopping process. In shipping services, security of goods refers to a set of measures used to guarantee that supplied items reach their destination undamaged and in excellent shape. Arasu and Viswanathan A. (Nursukma, 2021) state that the following factors have an impact on the safety of essential goods: (1) Security guarantees; security guarantees in shipping services consist of multiple key components, notably Strong and Safe Packaging: To avoid damage during transportation, commodities must be carefully packaged using sturdy and durable materials. Adding further protection against damage or loss to the goods being delivered can be achieved by purchasing shipping insurance. Certain shipping companies provide extra security services, like private escorts for precious items, in addition to special security and surveillance services. (2) Data encryption uses encryption technology to protect customer data during the shipment and storage process. Data confidentiality in shipping services comprises securing customers' personal information and shipping details. Strict privacy policies: In order to prevent customer data from being exploited or shared without consent, delivery companies need to have clear and strict privacy policies in place.

Customer satisfaction, according to Umar in Indrasari (2019), is the degree to which a customer feels and assesses whether what they expect and what they receive match. Kotler and Keller in Indrasari (2019) define customer satisfaction as an individual's satisfaction or dissatisfaction resulting from a comparison between the actual and expected performance of the results. The degree to which a consumer is happy with the product or service they receive is known as customer satisfaction. When a customer's expectations are met or exceeded by the service they receive, they are satisfied. According to Indrasari (2019) key indikator of customer satisfaction : (1) Expectation Alignment, customer satisfaction is not directly measured but is inferred based on the alignment or misalignment between customer expectations and the actual performance of the company. In other words, when a customer's experience matches or exceeds their initial expectations, they tend to be more satisfied. (2) Repurchase Intent, repurchase intent refers to the tendency of customers to buy a product or use a service from a company again after having previous experience with it. Customer satisfaction plays a crucial role in shaping repurchase intent. Satisfied customers are more likely to return for repeat purchases. (3) Willingness to Recommend, willingness to recommend refers to how willing customers are to recommend a product or service they have used to others. When customers are willing to recommend a product or service, it reflects their level of trust in the company.

Theoretical Framework

A conceptual framework is a model that explains how the variables under study relate to one another. The term "timeliness" describes how quickly the goods reach their intended location as per

the company's guarantee. Customer satisfaction is greatly impacted by timeliness; delays can lead to discontent and a decline in confidence (FM Attamimi, 2020). Fees for shipping services are known as Shipping Rates. While excessively high fees without better service quality can result in discontent, reasonable and competitive rates can promote client satisfaction (FM Attamimi, 2020).

The state of the items during the delivery process is referred to as "goods safety." Customer satisfaction is positively correlated with high security, however it might be negatively correlated with lost or damaged items (Khairul & Krisna, 2023). The total level of customer satisfaction is influenced by these three connected factors. Studies indicate that delivery costs are not as important as product safety and punctuality. To attain the highest levels of happiness, all of these factors must be properly controlled, nevertheless. Customer satisfaction is positively and significantly impacted by timeliness and security of goods, as demonstrated by regression analysis. and security of goods, as demonstrated by regression analysis.

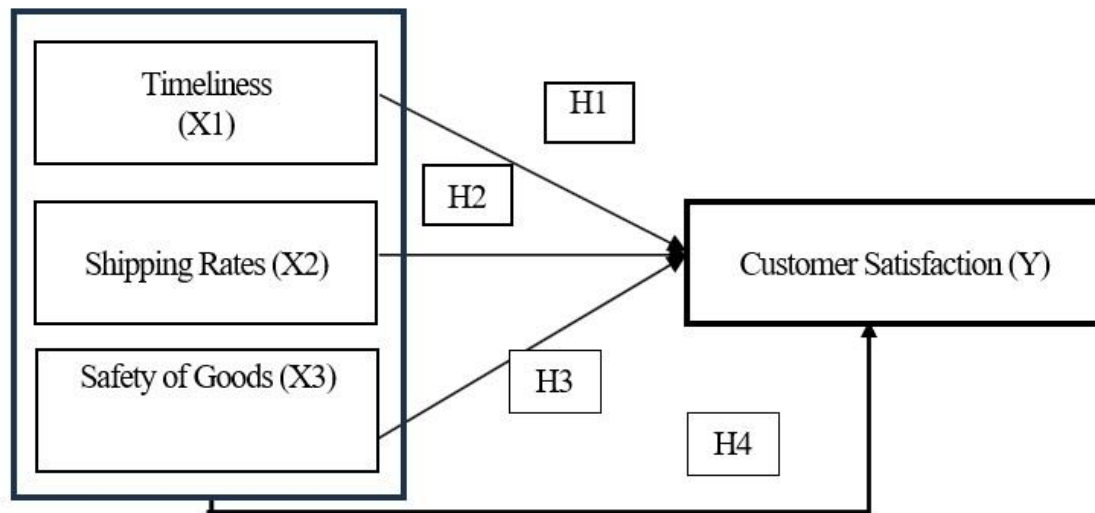


Figure 1 Theoretical framework

Source: Data processed by the author, 2024

Hypothesis

Based on preliminary observations, hypotheses are provisional assertions or conjectures that serve as the foundation for additional investigation. Throughout the research process, the hypothesis acts as a roadmap for determining how the variables under investigation relate to one another.

H1: Delivery timeliness affects customer satisfaction at PT JNE East Jakarta

According to this theory, consumer happiness is positively and significantly impacted by delivery timeliness. According to earlier studies, clients are often happier when their orders are delivered on schedule. A delayed delivery may cause a customer's unhappiness. (FM Attamimi, 2020). According to this theory, customers will be more satisfied when things are

delivered on time. When their ordered goods come on the scheduled date, customers are usually happy.

H2: Shipping Rates affect customer satisfaction at PT JNE East Jakarta.

According to this theory, shipping costs have a favorable impact on client satisfaction. Customer satisfaction can rise when rates are upfront and deemed acceptable. On the other hand, excessively high fees in the absence of better service quality could make customers less satisfied (Iqbal,2022). According to this theory, shipping costs that are fair and competitive would boost client happiness. Consumers believe the delivery service is worth the money they pay.

H3: Security of goods affects customer satisfaction at PT JNE East Jakarta.

According to this theory, customer happiness is positively impacted by the safety of the items during delivery. Consumers anticipate receiving safe and in good condition items. The degree of client satisfaction will drop dramatically if the goods are missing or damaged (Siwi,2023). According to this theory, customer happiness increases with the degree of security of the items during the delivery process. Consumers anticipate receiving safe and in good condition items.

H4 : Timeliness, Shipping Rates, and security of goods simultaneously affect customer satisfaction at PT JNE East Jakarta.

According to this hypothesis, the level of customer satisfaction is influenced by the three variables taken together. An ideal degree of client pleasure will come from the management of timeliness, shipping costs, and goods security. Effective management of all three of these variables can influence customer satisfaction more than effective management of just one or two of them.

2. Research Method

The research in this study was analyzed by the writers using quantitative methodologies. The study methodology known as quantitative research is based on objective measurements and mathematical analysis of data collected using a variety of tools, including surveys, questionnaires, and experiments. The definition of quantitative techniques as stated by (Sugiyono,2018) Based on the positivist ideology, quantitative research is a technique for studying certain populations or groups. The descriptive technique, which the author employs, is centered on gathering numerical data for analysis using descriptive statistics in quantitative research. The probability sampling method, which gives every member of the population an equal chance of being chosen as a sample, is the one used by the author. Primary data from a questionnaire administered to East Jakarta JNE users served as the study's data source. Because the study's questionnaire is closed-ended, participants can only respond using the predetermined list of options. This study's measurement scale is a Likertt scale. Sugiyono (2019) claims that the Likert scale is employed to gauge an individual's or a group's attitudes, beliefs, and perceptions on social issues. The authors of this study employed the sample strategy described by Hair et al. According to Hair et al. (2010), the number of indicators or statement items in the study determines the appropriate and representative sample size. Consequently, 130 respondents (5×26 indicators) made up the study's sample size.

This study employed (1) instrument tests, which comprise validity and reliability tests, as data analysis methodologies. A research instrument's validity can be determined by measuring how precisely or accurately it measures the things that it is supposed to measure. Reliability, on the other hand, is a metric that illustrates how consistently an instrument yields identical results across measurements. The consistency or stability of the measurement device's results when operated under the same circumstances is referred to as reliability. (2) The standard assumption test, which includes tests for heteroscedasticity, multicollinearity, and normality. A statistical technique called a normality test is used to determine if the distribution of data in a variable or group follows a normal distribution. A statistical technique called the heteroscedasticity test is used to determine whether the residuals (prediction error) in the regression model vary unevenly from one observation to the next. In contrast, the multicollinearity test is a statistical technique that determines whether two or more independent variables in a regression model have a high correlation with one another. Independent variables in regression analysis must be independent of one another. Nonetheless, the state is known as multicollinearity when there is a significant correlation between these variables. (3) An analysis of the relationship between one dependent variable (dependent) and two or more independent variables (independent) can be done statistically using multiple linear regression testing. (4) A statistical metric used in regression analysis to evaluate how well the regression model explains the variability of the dependent variable depending on the independent variable is the coefficient of determination test, also known as (R²).

The T-test and F-test are additional components of hypothesis testing. A statistical technique called the t-test is used to assess conjectures about population averages based on sample sizes. A statistical technique called the F-test is used to determine whether or not the independent variables in a regression model collectively significantly affect the dependent variable.

3. Result and Discussion

The validity test, according to Ghozali (2018), is used to ascertain the validity of a questionnaire. In order to make sure there are no pertinent elements, the validity test verifies that the research instrument actually measures the targeted variables and produces accurate results. The authors of this study gave questionnaires to 130 East Jakarta JNE clients who participated in the test. Every statement item in the research instrument has a column that can be used to verify its validity. If rcount is more than rtable, the statement is deemed legitimate. Based on the test results, it can be stated that all question items in this study are genuine. The r table value at $\alpha = 0.05$ with a free degree $df = 130 - 2 = 128$ in a two-way test is 0.172.

Table 2 Validity Test

Variable	Question Item	R Value	R Table	Description
Timeliness (X1)	1	0,753	0,172	Valid
	2	0,813	0,172	Valid
	3	0,841	0,172	Valid
	4	0,773	0,172	Valid
	5	0,790	0,172	Valid

	6	0,824	0,172	Valid
	1	0,773	0,172	Valid
	2	0,773	0,172	Valid
	3	0,831	0,172	Valid
Shipping Rates (X2)	4	0,778	0,172	Valid
	5	0,771	0,172	Valid
	6	0,809	0,172	Valid
	7	0,829	0,172	Valid
	8	0,816	0,172	Valid
	1	0,771	0,172	Valid
	2	0,842	0,172	Valid
Safety of Goods (X3)	3	0,823	0,172	Valid
	4	0,873	0,172	Valid
	5	0,839	0,172	Valid
	6	0,806	0,172	Valid
	1	0,788	0,172	Valid
	2	0,719	0,172	Valid
Customer Satisfaction (Y)	3	0,776	0,172	Valid
	4	0,775	0,172	Valid
	5	0,452	0,172	Valid
	6	0,304	0,172	Valid

Sugiyono (2019) states that the reliability test is used to demonstrate the degree of correctness, consistency, and reliability of the indicators in the questionnaire. Decisions on this reliability test are based on a comparison between the Cronbach Alpha value and the reliability test's standard calculation, which is 0.6. It suggests that the observation tool is dependable if it is higher than 0.6.

Table 3 Reliability Test

No	Variable	Cronbach Alpha (0,60)	Description
1.	Timeliness (X1)	0,887	Reliabel
2.	Shipping Rates (X2)	0,917	Reliabel
3.	Security of Goods (X2)	0,907	Reliabel
4.	Customer Satisfaction (Y)	0,738	Reliabel

According to this study, all three variables—timeliness, Shipping Rates, and satisfaction—have Cronbach Alpha values more than 0.6, indicating that the data they produce are reliable enough to be utilized as measurement tools.

The purpose of the normality test, according to Ghazali (2018), is to determine whether confounding or residual variables in the regression model are regularly distributed. In order to guarantee the validity and reliability of the analytical results, the normalcy test helps to check that the data satisfies this assumption.

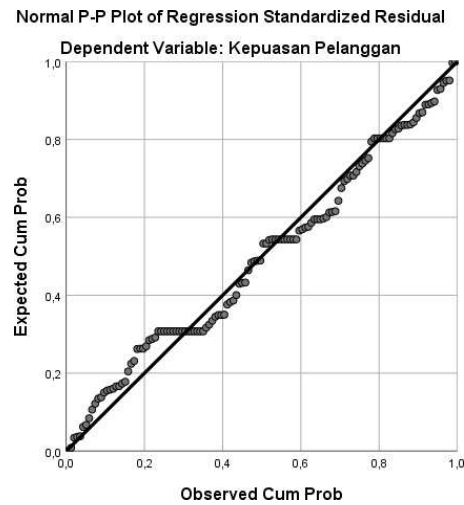


Figure 1 Normal Probability Plot Graph

Source: Data Processing Results from SPSS version 26, 2024

The patterned data is dispersed around the sloping line and follows the line's route, as can be seen from the visualisation. This normality test's result shows that the data on the graph is in line with and near the sloping line. This suggests that the regression model's distribution is normal, which qualifies the data for additional testing.

Table 4 Multicollinearity Test Results Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.	Collinearity Statistics	
	B	Std. Error				Tolerance	VIF
1 (Constant)	7,972	,893		8,924	,000		
Timeliness	,252	,067	,329	3,738	,000	,240	4,173
Shipping Rates	,124	,053	,225	2,336	,021	,201	4,979
Safety of Goods	,278	,065	,372	4,274	,000	,244	4,095

a. Dependent Variable: Customer Satisfaction

Source: Data Processing Results from SPSS version 26, 2024

The purpose of the multicollinearity test, according to A.W.K. (2019), is to make sure that there is no substantial intercorrelation between the independent variables in the regression model. Each independent variable has a tolerance value more than 0.1 and a VIF value smaller than 10, according to the findings of the multicollinearity test. When the data exhibits a tolerance value larger than the given standard of 0.1 and a VIF value smaller than the given standard of 10, it can then be verified that there is no multicollinearity.

Table 5 Glesjer Test

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1,335	,593		2,253	,026
	Timeliness	-,023	,045	-,092	-,509	,611
	Shipping Rates	-,030	,035	-,165	-,839	,403
	Safety of Goods	,048	,043	,199	1,113	,268

a. Dependent Variable: Abs_RES

Source: Data Processing Results from SPSS version 26, 2024

The goal of the heteroscedasticity test, according to Sugiyono (2021), is to ascertain if the residual variance varies from one observation to the next in a homoscedastic or heteroscedastic manner. When there is no discernible pattern and the points are dispersed both above and below the zero line, heteroscedasticity is absent on the Y axis. It is evident from the scatterplot graph above that the points do not form a specific pattern and are dispersed randomly above and below zero on the Y axis. This suggests that the regression model does not contain heteroscedasticity.

According to multiple linear regression tests, the constant has a value of 7.972, meaning that the dependent variable will also have a value of 7.972 in the event that the independent variable is zero. Given that X1's regression coefficient (β) is 0.252, an increase in timeliness (X1) will result in a 0.252 rise in customer satisfaction. This suggests that promptness has a beneficial effect on client satisfaction.

Table 6 Multiple Linear Regression Tests Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	VIF
		B	Std. Error	Beta	
1	(Constant)	7,972	,893		
	Timeliness	,252	,067	,329	4,173
	Shipping Rates	,124	,053	,225	4,979
	Safety of Goods	,278	,065	,372	4,095

Given that X2 has a regression coefficient (β) of 0.124, an increase in delivery costs (X2) will result in a 0.124 rise in customer satisfaction. This suggests that delivery costs have a favorable effect on client satisfaction. According to the regression coefficient (β) for X3, there will be a 0.278 increase in customer satisfaction with every 0.278 increase in products security (X3). This suggests that consumer happiness is positively impacted by goods security.

Table 7 Coefficient of Determination Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,875 ^a	,766	,761	1,345

a. Predictors: (Constant), Security of Goods, Timeliness, Shipping Rates

b. Dependent Variable: Customer Satisfaction

Source: Data Processing Results from SPSS version 26, 2024

Based on these results, it can be concluded that the independent factors—timeliness, shipping costs, and goods security—have an impact on the dependent variable, which is customer satisfaction, which has a value of 76.6%. Other variables not included in this study have an impact on the remaining 23.4% of the data.

Table 8 T Test Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7,972	,893		8,924	,000
	Timeliness	,252	,067	,329	3,738	,000
	Shipping Rates	,124	,053	,225	2,336	,021
	Safety of Goods	,278	,065	,372	4,274	,000

a. Dependent Variable: Customer Satisfaction

Source: Data Processing Results from SPSS version 26, 2024

The dependent variable, JNE East Jakarta customer satisfaction, was tested for partial or partial significant effects by the independent variables, timeliness, Shipping Rates, and item security, using the T test. The results (0.025: 128) are shown in the distribution of the t table value, which is 1.979. Customer satisfaction is positively and significantly impacted by timeliness. With a significance level of $0.000 < 0.05$ with a t count of $3.738 > t$ table of 1.979. Thus, it can be said that H0 is denied while H1 is approved. Customer satisfaction is positively and significantly impacted by rates. With a significant level of $0.021 < 0.05$ and a t count of $2.336 > t$ table of 1.979. Thus, it can be said that H2 is accepted and H0 is rejected. Customer happiness is positively and significantly impacted by item safety. With a significance level of $0.000 < 0.05$ and a t count of $4.274 > t$ table of 1.979. Therefore, it can be said that while H0 is rejected, H3 is accepted.

Table 9 F Test ANOVAa

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	747,710	3	249,237	137,742	,000 ^b
Residual	227,990	126	1,809		
Total	975,700	129			

a. Dependent Variable: Customer Satisfaction

b. Predictors: (Constant), Safety of Goods, Timeliness, Shipping Rates

Finding out if every independent variable in the regression model concurrently affects the dependent variable is the goal of the F test. The combined significance of item security (X3), Shipping Rates (X2), and timeliness (X1) on customer satisfaction (Y) has a value of 0.000, which is less than 0.05, according to the table. It is possible to conclude that there is a simultaneous significant effect of punctuality, Shipping Rates, goods safety, and customer happiness (Y) based on the computed F value of 137.742, which is greater than the F table of 3.06.

Based on the results of the preliminary research using previously conducted methods of analysis, it can be inferred that there is a negative impact on the delivery time, shipping cost, and storage conditions for customers of PT JNE in Jakarta Timur. This may be seen from the comparison with the SPSS 26 program, whose data was obtained by presenting questionnaires to 130 respondents who had completed answering the questions. The results of the berganda line regression analysis show that the variables of delivery time, shipping cost, and product quality have a significant impact on the satisfaction of PT JNE customers in Jakarta. This result is explained by the following formula: $Y = 7,972 + 0,252 X1 + 0,124 X2 + 0,274 X3$.

1. The effect of timeliness on customer satisfaction of PT JNE in East Jakarta

The findings of this study show that customer satisfaction at PT JNE in East Jakarta is significantly impacted by timeliness, as demonstrated by the t test results, which obtained a t count of 16.559 with a significance value of 0.000 less than the predefined standard error of 0.05. As a result, H0 is rejected and H1 is accepted or significant. The coefficient of determination (R2) test yields a result of 68.2%; variables not included in this study account for the remaining 31.8%. It is determined from earlier experiments that PT JNE's customer satisfaction in East Jakarta is impacted by punctuality. Being on time has a big, positive impact (Nantigiri, 2021). Customers frequently place a higher value on assurance and convenience when ordering products, therefore maintaining customer satisfaction requires effective delivery (Sucipto, 2023).

2. The effect of Shipping Rates on customer satisfaction of PT JNE in East Jakarta

The results of this study indicate that Shipping Rates have a significant effect on customer satisfaction of PT JNE in East Jakarta, as evidenced by the results of the t test obtained t count of 16.350 with a significance value of 0.000 smaller than the predetermined standard error of 0.05, then H0 is rejected and H2 is accepted or significant. The outcome of the coefficient of determination (R2) test is 67.6%; variables not included in this study account for 32.4% of the explanation. It is determined from earlier experiments that shipping costs have an impact on PT

JNE's customers' pleasure in East Jakarta. In order for customers to remain loyal to the business and outperform the competition, price or tariff has a big impact on their pleasure (Pribadi, 2022)

3. The effect of security of goods on customer satisfaction of PT JNE in East Jakarta

The findings of the t test, which produced a t count of 17.026 with a significance value of 0.000 less than the predetermined standard error of 0.05, show that the safety of the goods has a significant impact on customer satisfaction of PT JNE in East Jakarta. As a result, H0 is rejected and H3 is accepted or significant. The coefficient of determination (R²) test yielded a value of 69.4%; variables not included in this study account for the remaining 30.6%. Previous testing has led to the conclusion that security has an impact on PT JNE's East Jakarta customers' pleasure. Customer happiness is significantly impacted by the security of the items (Yuniar, 2021).

4. The effect of timeliness, Shipping Rates and security of goods on customer satisfaction of PT JNE in East Jakarta

The results of this study indicate that timeliness, Shipping Rates and security of goods have a significant effect simultaneously on customer satisfaction of PT JNE in East Jakarta, as evidenced by the results of the f test obtained t count of 137.742 with a significance value of 0.000 smaller than the predetermined standard error of 0.05, then H0 is rejected and H4 is accepted or significant. The coefficient of determination (R²) test result is 76.6%, the remaining 23.4% is explained by variables not examined in this study. Previous tests have shown that the customer satisfaction of PT JNE in East Jakarta is influenced by the following factors: shipping prices, security of goods, and punctuality.

4. Conclusion

According to this study, there are a number of crucial elements that might raise customer satisfaction, including prompt delivery of goods on time, reasonable shipping costs, and protection of the cargo throughout transit until it is received by the client.

The following is evident from the hypothesis testing results: (1) Shipping Rates have a substantial impact on PT JNE East Jakarta customers' satisfaction. (2) Timeliness has a major impact on PT JNE East Jakarta customers' contentment. (3) The customer happiness of PT JNE East Jakarta is significantly impacted by item security. (4) The customer satisfaction of PT JNE East Jakarta is significantly impacted by timeliness, shipping costs, and item security.

Recommendation

The following advice and ideas can be offered in light of the findings of the study on the impact of product security, shipping costs, and timeliness on PT JNE's East Jakarta customers' satisfaction:

Improved On-Time Delivery

Delivery Route Optimization: To cut down on travel time and increase punctuality, delivery routes are optimized utilizing GPS technology and data analysis. Enhancement of the Logistics

Management System to guarantee on-time delivery through the installation of a more effective logistics management system.

1. Shipping Rate Adjustment

Setting Shipping Rates that are both lucrative and competitive requires doing a market analysis. Cost transparency is achieved by giving clients accurate and lucid information about shipping costs in order to allay misunderstanding and build confidence. Discounts and Promotions: In order to draw in additional clients, businesses should periodically provide exclusive discounts or promotions.

2. Improved Security of Goods

Use of Security Technologies: To guarantee that items stay safe throughout delivery, technologies like real-time tracking and security sensors are used. Strict Goods Handling Protocols should be developed and put into place in order to lower the possibility of loss or damage. Shipping Insurance by providing clients with choices for shipping insurance to further safeguard products being shipped.

3. Improved Customer Service

Fast Response: In addressing client concerns or questions, offer receptive and timely customer service. Customer input is gathered and analyzed on a regular basis to pinpoint areas for development and carry out the required adjustments.

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