

DELIVERY TIMELINESS AND SERVICE RESPONSIVENESS AS DETERMINANTS OF CUSTOMER SATISFACTION

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A B S T R A C T

The changing times, marked by technological advancements, have brought about various positive impacts across many aspects of life. The faster technology advances, the greater the convenience people experience in carrying out their daily activities, including in e-commerce. The growth of e-commerce in the digital era has had a significant impact on various industrial sectors, particularly transportation and logistics services. As online efficiency increases, the need for effective and efficient transportation and logistics services also rises to ensure fast and timely delivery of goods. This has fueled increasingly competitive competition within the delivery services industry, one of which is J&T Express. However, at the J&T Express Betoambari branch, complaints regarding delivery delays, difficulties contacting couriers, and some packages being held up for 5 to 10 days are still being reported. Some customers have also chosen to visit the J&T Express Betoambari branch in person because they feel that package delivery by couriers takes too long. This situation indicates issues with delivery timeliness and service responsiveness that can impact customer satisfaction. The purpose of this study is to determine the relationship between the variables Delivery timeliness (X1) and Service Responsiveness (X2) and Customer Satisfaction (Y). This study employs a quantitative approach using an associative-causal quantitative research design, with a sample size of 70 respondents. The results indicate that Delivery Timeliness (X1) has a significant and positive effect on Customer Satisfaction (Y), Service Responsiveness (X2) has a significant and positive effect on Customer Satisfaction (Y), and Delivery Timeliness (X1) and Service Responsiveness (X2) simultaneously have a significant effect on Customer Satisfaction (Y).

Keywords: Delivery timeliness; service responsiveness; Customer Satisfaction

INTRODUCTION

The changing times, marked by technological advancements, have brought about various positive impacts across many aspects of life. The faster technology advances, the greater the convenience people experience in carrying out their daily activities, including in e-commerce. Advances in information technology and the internet have significantly transformed marketing models (Jejen & Sudarman, 2024). Technological advancements, particularly those related to the internet, encourage people to adapt to the various conveniences offered (Alamin et al., 2023). Advances in digital technology and easy internet access drive the growth of e-commerce, enabling consumers to make transactions flexibly. By utilizing digital platforms, delivery service companies can expand the reach of their services to the public (Sudarman et al., 2025). As the effectiveness of online activities increases, the need for effective and efficient transportation and logistics services also rises to ensure that goods are delivered quickly and on time (Yulianto & Wulandari, 2025). With the rise of online shopping among Indonesians, the demand for delivery services has also increased significantly. This has led to increasingly fierce competition within the delivery services industry. In Indonesia, there are several major delivery service brands, including Pos Indonesia, JNE, J&T, TIKI, and other companies that are well-known to the public (Syajari & Argo, 2024). J&T Express is one of the key players in the industry, playing a vital role in distributing goods needed to support Indonesia's economic activities (Ranjani & Prabowo, 2024). J&T Express is also known for its commitment to providing excellent customer service, which has a positive impact on customer satisfaction (Nur et al., 2025). High quality service can attract consumers (Kasinem, 2020). In the service industry, customers naturally expect to receive good service. Faced with increasingly intense business competition, companies are required to provide optimal service quality in order to maintain customer trust and

loyalty (Winton et al., 2023). Service quality is one of the key factors companies must prioritize to enhance customer satisfaction (Ichsan & Karim, 2021). According to Christopher (2023) delivery timeliness is not merely a matter of distribution speed but reflects the degree of alignment between the promised delivery time and the actual delivery time. Furthermore, according to Tjiptono (2022) responsiveness is a crucial dimension in this model because it reflects the service provider's willingness, readiness, and ability to assist customers and deliver service quickly, accurately, and efficiently. Furthermore, according to Tjiptono & Diana (2022) satisfied customers tend to exhibit loyalty toward the same brand, manufacturer, product, store, or service provider, and are more likely to make repeat purchases and provide positive recommendations to others.

One of the J&T Express branches in Baubau City is J&T Express Betoambari. Based on an analysis of customer reviews on Google Maps, there are still complaints regarding delivery delays, difficulties contacting couriers, and some packages being held up for 5 to 10 days before being received. This is supported by the results of brief interviews with several customers conducted on January 15–16, 2026, which showed that some customers chose to come directly to the J&T Express Betoambari office because they felt that package delivery by couriers took too long.

The urgency of this study lies in the fact that there are still issues regarding delivery timeliness and service responsiveness, which can affect customer satisfaction levels. This situation indicates a gap between customer expectations and the services provided by the delivery company. Customer satisfaction is the goal of every company. In general, satisfaction is defined as the result of a consumer's assessment or evaluation of the products or services they use, based on the extent to which those products or services meet their expectations (Anggraini & Budiarti, 2020). Furthermore, consumer satisfaction is the difference between perceived performance and consumer expectations regarding a product or service (Rahayu et al., 2021).

One strategy that delivery service companies can adopt is to improve service quality, particularly regarding on-time delivery and service responsiveness. These two aspects are believed to play a crucial role in shaping consumer satisfaction. Therefore, further research is needed to determine whether on-time delivery and service responsiveness influence consumer satisfaction.

A research gap in this study is that the research conducted by Bimantara (2020) indicated that service quality, specifically service responsiveness, has a significant effect on customer satisfaction. This is supported by the research conducted by Syanjari & Argo (2024) which showed that service responsiveness has a positive and significant effect on customer satisfaction. In contrast, a study by Saputro & Suparmono (2020) found that service responsiveness did not have a significant effect on customer satisfaction. Furthermore, a study by Supriyadin et al. (2024)) showed that delivery timeliness has a significant effect on customer satisfaction. Furthermore, a study by Fikih et al. (2025) showed that delivery timeliness has a positive and significant effect on customer satisfaction. In contrast, a study by Janah (2025) indicated that delivery timeliness does not have a significant effect on customer satisfaction. The novelty of this study lies in a new variable service responsiveness which has not been examined at all in previous research. Previous studies have extensively discussed service quality, but none have addressed the service responsiveness of J&T Express, particularly at the J&T Express branch in Betoambari, Baubau.

METHODOLOGY

This study falls under the category of quantitative associative-causal research using a survey method, as it aims to determine the influence (cause-and-effect relationship) between the independent variables delivery timeliness (X1) and service responsiveness (X2) on the dependent variable customer satisfaction (Y) at the J&T Express Betoambari Baubau branch.

According to Sugiyono (2017) the population is the domain of generalization consisting of objects or subjects possessing specific qualities and characteristics defined by the researcher for study and to draw conclusions. The population in this study consists of all J&T Express customers at the Betoambari Baubau branch who used delivery services over the course of one month. Based on an interview with J&T Express Betoambari on October 27, 2025, the number of customers per month reached 28,264. The sampling technique used was purposive sampling, which involves selecting a sample based on specific criteria. The sample size for this study was determined using a calculation known as the "rule of thumb" based on the number of indicators, which states that the minimum sample size should ideally be 5 to 10 times the number of indicators (Hair et al., 2019). Since this study had a total of 14 indicators, 70 respondents were selected. This study was conducted at the J&T Express Betoambari Baubau Branch, Jl. Dayanu Ikhsanuddin, specifically in front of the General

Election Commission (KPU) Office, Lipu Village, Betoambari Subdistrict, Baubau City. The study period lasted 2 months, from January to February 2026.

The data collection techniques used in this study included observation, interviews, questionnaires, and documentation. The research instrument consisted of a questionnaire using a 1–5 Likert scale, containing statements for each variable indicator. Data analysis was performed using IBM SPSS Statistics 23.

RESULTS & DISCUSSION

Validity Test

Table 1. Validity Test
Timeliness of Delivery (X1)

Variable Indicator	Calculated r	Table r	Description
Delivery Timeliness	0,838	0,235	Valid
Delivery Consistency	0,875	0,235	Valid
Schedule reliability	0,800	0,235	Valid
Accuracy of shipping information	0,617	0,235	Valid
Consistency between scheduled and actual times	0,877	0,235	Valid
Service Responsiveness (X2)			
Willingness to Help Customers	0,746	0,235	Valid
Speed of Service	0,776	0,235	Valid
Responsiveness to complaints	0,81	0,235	Valid
Clarity and speed of information	0,736	0,235	Valid
Customer Satisfaction (Y)			
The match between expectations and results	0,742	0,235	Valid
Perceived service quality	0,694	0,235	Valid
Perceived value	0,790	0,235	Valid
Intention to use the service again in the future	0,797	0,235	Valid
Willingness to recommend the service to others	0,699	0,235	Valid

Source: Data processed using IBM SPSS Statistics 23

Based on Table 1, it can be seen that all statement items for the variables of on-time delivery, service responsiveness, and customer satisfaction used in this study have a calculated $r >$ table r or a calculated $r > 0.235$; therefore, it can be concluded that all statement items are valid.

Reliability Test

Table 2. Reliability Test

Variable	Cronbach's alpha	Description
Timeliness of Delivery	0,864	Reliability
Service responsiveness	0,763	Reliability
Customer satisfaction	0,797	Reliability

Source: Data processed using IBM SPSS Statistics 23

Table 2 shows that the reliability coefficients for each indicator of every variable are above 0.70. This indicates that the measurement instrument used in this study is reliable.

Classical Assumption Tests

Normality Test

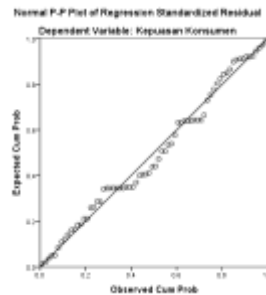


Figure 1. Normality Test

Based on Figure 1 above, the P-P Plot of Regression Standardized shows that the points on the plot are scattered around the diagonal line and follow the direction of that line; therefore, the regression model is suitable for use and follows a normal distribution.

Heteroscedasticity Test

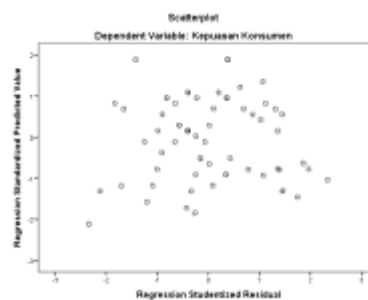


Figure 2. Heteroscedasticity Test

Based on Figure 2 above, the data points on the scatterplot are randomly distributed and do not form a specific pattern; therefore, the data can be considered free from heteroscedasticity.

Multicollinearity Test

Table 3. Multicollinearity Test
Coefficients^a

Model	Collinearity Statistics		
	(Constant)	Tolerance	VIF
1	X1	.697	1.435
	X2	.697	1.435

Source: Data processed using IBM SPSS Statistics 23

Based on Table 3 above, it can be concluded that there is no correlation among the independent variables and that multicollinearity does not occur. This is because, in the coefficients table, the Variance Inflation Factor (VIF) values for each independent variable are ≤ 10 and the tolerance values for each independent variable are ≥ 0.10 —specifically, the VIF value for each independent variable is $1.435 \leq 10$ and the tolerance value is $0.679 \geq 0.10$.

Multiple Linear Regression Analysis

$$Y = 5,965 + 0,286 X1 + 0,563 X2$$

Based on the regression equation above, it can be seen that the variables delivery timeliness (X1) and service responsiveness (X2) have a positive effect on Y. This is indicated by the positive regression coefficients of 0.286 for X1 and 0.563 for X2. Furthermore, since the regression coefficient for X2 is larger than that for X1, it can be concluded that X2 has a greater influence on Y. This is indicated by the positive regression coefficients of 0.286 for X1 and 0.563 for X2. Furthermore, since the regression coefficient for X2 is larger than that for X1, it can be concluded that X2 has a greater influence on Y.

Partial Test (t-Test)

Tabel 4. Uji Parsial (Uji t)

		Coefficients ^a			t	Sig.
Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta		
1	(Constant)	5.965	1.493		3.996	.000
	X1	.286	.063	.417	4.570	.000
	X2	.563	.109	.470	5.145	.000

Source: Data processed using IBM SPSS Statistics 23

Berdasarkan tabel 4 diatas, dapat disimpulkan:

- a) The t-test between the delivery timeliness variable (X1) and customer satisfaction (Y) shows that the significance value is $0.000 < 0.05$ and the calculated t-value is $4.570 >$ the critical t-value of 1.996.

Based on the t-test results, the delivery timeliness variable has a significant effect ($p < 0.05$), with a calculated t-value of $4.570 >$ the critical t-value of 1.996, and a positive regression coefficient of 0.286. A positive regression coefficient indicates that the relationship between delivery timeliness and customer satisfaction is positive. This means that the better the delivery timeliness provided by J&T Express Betoambari, the higher the level of satisfaction will be.

Delivery timeliness is a crucial aspect of shipping services, as customers generally expect their packages to arrive within the estimated timeframe. This is supported by the theory proposed by Christopher (2023) who states that delivery timeliness is not only related to the speed of the distribution process but also reflects the degree of alignment between the promised delivery time and the actual delivery time.

Furthermore, this study aligns with research conducted by Supriyadin et al. (2024) which shows that on-time delivery has a significant effect on customer satisfaction. In contrast, research by Janah (2025) indicates that delivery timeliness does not have a significant effect on customer satisfaction. Thus, H1—which states that delivery timeliness affects consumer satisfaction—is accepted.

- b) A t-test between the service responsiveness variable (X2) and consumer satisfaction (Y) showed a significance value of $0.000 < 0.05$, and the calculated t-value of 5.145 was greater than the critical t-value of 1.996.

Based on the results of the t-test, it is evident that the service responsiveness variable has a significant and positive effect on customer satisfaction. This is evidenced by a significance value of $0.000 < 0.05$, a calculated t-value of $5.145 >$ the critical t-value of 1.996, and a positive regression coefficient of 0.563. A positive regression coefficient indicates that the relationship between service responsiveness and consumer decisions is direct. This means that the better the service responsiveness provided, the higher the level of consumer satisfaction will be.

Service responsiveness reflects employees' ability and willingness to assist customers and provide prompt, appropriate service in response to customer needs and complaints. This is supported by the theory proposed by Tjiptono (2022) who states that responsiveness is a crucial dimension in this model because it reflects the service provider's willingness and ability to assist customers and deliver service quickly, accurately, and efficiently.

Furthermore, this study aligns with research conducted by Syanjari & Argo (2024) which shows that service responsiveness has a positive and significant effect on customer satisfaction. In contrast, research by Saputro & Suparmono (2020) showed that service responsiveness does not have a significant effect on customer satisfaction. Thus, H2, which states that service responsiveness influences consumer decisions, is accepted.

F-Test

Table 5. F-Test

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	311.472	2	155.736	52.540	.000 ^b
	Residual	198.599	67	2.964		
	Total	510.071	69			

Source: Data processed using IBM SPSS Statistics 23

Based on Table 5 above, the significance value of $0.000 < 0.05$ and the calculated F-value of $52.540 >$ the critical F-value of 3.13. The critical F-value was obtained from the F-distribution with numerator degrees of freedom (df_1) = 2 and denominator degrees of freedom (df_2) = 67 at a 5% significance level. This indicates that delivery timeliness (X1) and service responsiveness (X2) simultaneously have a significant effect on customer satisfaction (Y). “Simultaneously” means that both variables collectively influence customer satisfaction. In other words, if delivery timeliness and service responsiveness improve together, customer satisfaction will also increase.

In the context of delivery services, consumers evaluate not only on-time delivery but also how the company responds and provides service when consumers need information or encounter problems. Therefore, the combination of on-time delivery and responsive service is a key factor in shaping consumer satisfaction. This is supported by the theory proposed by Tjiptono & Diana (2022) which states that satisfied customers tend to exhibit loyalty toward the same brand, manufacturer, product, store, or service provider, as well as a propensity to make repeat purchases and provide positive recommendations to others.

Thus, H3—which states that delivery timeliness and service responsiveness simultaneously influence consumer satisfaction—is accepted. “Simultaneously” means that both variables collectively influence consumer satisfaction.

Coefficient of Determination Test

Table 6. Coefficient of Determination Test

Model Summary ^b				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.781 ^a	.611	.599	1.72168

Source: Data processed using IBM SPSS Statistics 23

Based on Table 6 above, the Adjusted R-Square value was found to be 0.599, or 59.9%. This indicates that the variable of customer satisfaction with J&T Express Betoambari is influenced by the variables of delivery timeliness and service responsiveness, while the remaining 40.1% is influenced by other variables not included in this study.

CONCLUSION

Based on the research question and the data analysis conducted, the researcher reached the following conclusion: on-time delivery has a significant and positive effect on customer satisfaction with J&T Express Betoambari. This can be seen from the t-test with a significance value of $0.000 < 0.05$ and a calculated t-value of $4.570 >$ the table t-value of 1.996, as well as a regression coefficient of 0.286. This means that H1 is accepted; service responsiveness has a significant and positive effect on customer satisfaction with J&T Express Betoambari. This can be seen in the t-test, with a significance value of $0.000 < 0.05$, a calculated t-value of $5.145 >$ the critical t-value of 1.996, and a regression coefficient of 0.563. Therefore, H2 is accepted; On-time delivery and service responsiveness simultaneously have a significant effect on customer satisfaction with J&T Express Betoambari. This can be seen in the F-test with a significance value of $0.000 < 0.05$ and a calculated F value of $52.540 >$ the table F value of 3.13. This means H3 is accepted. This study has limitations: the respondents were exclusively consumers who use delivery services via e-commerce, so it does not yet reflect the satisfaction of consumers who use non-e-commerce delivery services; the sample size in this study is still limited to 70 respondents, so it does not yet represent all J&T Express Betoambari customers more broadly, and it only uses two independent variables delivery timeliness and service responsiveness so there is still a possibility that other variables could influence consumer satisfaction.

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