Jurnal Siber Multi Disiplin (JSMD)
E-ISSN: 2987-0380
P-ISSN: 2987-0402
+62 822 1012 3600 https://research.e-siber.org siberpublisher.info@gmail.com
DOI: https://doi.org/10.38035/jsmd.v3i4

The Effect of Online Tracking Systems and Timing Accuracy on Customer Loyalty Through Customer Satisfaction at J&T Express 2024

Darmawan Apriyadi[1], Sarovah Widiawati[2], Nurul Nurul[3], Rosmallini Putri[4]
[1]Institut Transportasi dan Logistik Trisakti, Jakarta, Indonesia.
[2]Institut Transportasi dan Logistik Trisakti, Jakarta, Indonesia.
[3]Institut Transportasi dan Logistik Trisakti, Jakarta, Indonesia, nurulhalima02@gmail.com
[4]Institut Transportasi dan Logistik Trisakti, Jakarta, Indonesia.

Corresponding Author: nurulhalima02@gmail.com[3]

Abstract: This study aims to determine the effect of the online tracking system and time accuracy on customer loyalty through customer satisfaction at J&T Express East Jakarta 2024. This research used quantitative methods and nonprobability sampling techniques. To collect the data, the researchers used a questionnaire from J&T Express users which were then analyzed using the SEM-PLS (Structural Equation Modeling-Partial Least Square) method with SmartPLS 4.0 software. This study used the questionnaire data as a Likert scale that was assessed for validity and reliability. This research indicates that the online tracking system positively and significantly affects customer satisfaction. Delivery timing also has a positive and significant effect on customer satisfaction. In turn, customer satisfaction positively and significantly effects customer loyalty. The online tracking system positively and significantly effects customer loyalty through customer satisfaction. Time accuracy also positively and significantly effects customer loyalty through customer satisfaction.

Keyword: Online Tracking System, Timing Accuracy, Customer Loyalty, Customer Satisfaction.

INTRODUCTION

E-commerce business in Indonesia is currently experiencing very rapid growth. By the end 2024, Indonesia will be the country with the fastest e-commerce growth globally. Indonesia was in the first position with 30.5%, then in the second place followed by Mexico with 26.8%, in the third place was Thailand at 22.9%, and in the fourth and fifth places were Iran and Malaysia with 22.1% and 21.4% respectively (F.Santika, 2024).

E-commerce is changing consumer shopping patterns from traditional to modern. Consumers can order what they want through their smartphones and wait for delivery to the address they want so they do not have to go to the store. This is possible because of the presence of a third party called the freight delivery service company. This influences the

business of goods delivery services, so there are more and more shipping service companies in Indonesia.

In Indonesia, customers have a variety of shipping companies such as J&T Express, JNE, Shopee Express, Sicepat, TIKI, and Anter Aja. This wide selection allows customers to opt for shipping services that offer high-quality service. One of the companies most used by consumers in Indonesia is J&T Express. Based on a survey in 2023, a large 58% of consumers choose J&T Express as a shipping service (Muhamad, 2023). J&T Express is a delivery service company providing service delivery of goods, both documents and goods with the coverage being inter-city and inter-province (Aliftian Nantigiri et al., 2021). J&T Express has three types of shipping services: EZ, Eco, and Super. The difference lies in delivery time. Ez provides shipping within the 2–7-day time range while eco has shipping within the 7–17-day time interval, and finally super ships the package within the 1–3-day shipping time.

In ongoing delivery, consumers expect that they are able to track their goods or documents. Consumers find it difficult to trace the items or documents that they have shipped if there is no certainty of the time when the items arrive. Due to the lack of information about the location of the products, they sent. Therefore, J&T Express presents an online tracking system that can help consumers in finding where their goods are. The online tracking service is carried out through the website and the application owned by J&T Express. The system is aimed at helping consumers find the products or documents being shipped. However, there are still obstacles in the online tracker system that triggered users; complaint, for example, when goods are supposed to be delivered on a certain date, but on the X account of @jntexidpress it shows inaccuracy on the delivery status of the documents/goods (Pratama, 2023). An inaccurate online tracking system may reduce customer satisfaction by showing a significant difference between online tracing and customer content (Arroffi et al., 2021).

In addition to the online tracking system, consumers also want punctuality in their deliveries. Accuracy in the delivery time that matches the schedule can increase customer satisfaction since their expectation is fulfilled. However, in fact, customers often experience delays in receiving goods, with delivery delays being the most common complaint (Wahyuni Nasution & Ayu Nofirda, 2023). Based on the Hafizha et al., (2019) punctuality has a positive effect on customer satisfaction. It shows that the timelier the company is in delivering goods to its customers, the better the customer's satisfaction in using the service.

The primary problem, which results in numerous complaints and unhappy customers, is the disparity between tracking system and actual timing accuracy. In addition to having an impact on customer satisfaction, this inconsistency may make it more difficult for the business to develop enduring client loyalty, which is crucial in the cutthroat logistics sector.

With the online tracking system and punctuality provided by J&T Express, customers will feel happy, which leads to satisfaction. Previous research shows that customer satisfaction has a significant effect on customer loyalty because it plays an important role in building it. When customers are satisfied with their experience, they tend to continue using the service (Susesti Adianti & Trimarjono, 2024). From this satisfaction, consumers will use J&T Express services continuously or it can also be called customer loyalty to the company.

Although a lot of research has been done on delivery timeliness, there are still shortcomings for some variables. Gaps found in some articles, such as in (Susesti Adianti & Trimarjono, 2024) it does not specifically examine the effect of online tracking systems in the context of timeliness and customer loyalty through customer satisfaction, then in the article of (Mawarni & Adi, 2022) it does not examine the indirect effect of online tracking systems and timeliness on loyalty through satisfaction, the article only examines the effect on customer satisfaction. This study fills the gap in the literature by adding the online tracking system variable and the satisfaction variable to be intervening for the customer loyalty variable

which has not been widely studied in the context of customer loyalty. Based on the problems of the online tracking system and timeliness above, the researchers are interested in analyzing the problems about the Effect of Online Tracking Systems and Timing Accuracy on Customer Loyalty Through Customer Satisfaction in J&T Express 2024. The purpose of this research is to find out the Effect of Online Tracking System and Timing Accuracy on Customer Loyalty Through Customer Satisfaction at J&T Express 2024.

Literature review

1. Online Tracking System

According to Mawarni & Adi (2022), an online tracking system is a system that customers can use to provide up-to-date information about documents or goods to be sent or received. A tracking system is a system used to ensure that all processes are running properly so that accurate information can be generated (Kurniasih, 2022). With this facility, it is easy for customers to check documents or goods and control the process of ordered goods in real time (Lutha et al., 2024). Therefore, it can be concluded that an online tracking system is a system used to provide real-time and accurate information to make it easier for customers to control and check the delivery process.

2. Time Accuracy

Lutha et al., (2024) state that the timing accuracy is the delivery that arrives on schedule and ensures that the ordered goods arrive at the destination properly. It is important to maintain the trust and loyalty of the customer. Accuracy is the agreed time between the seller and the buyer until the product arrives at the target address. The accuracy of delivery time is a very important thing to increase customer trust in the company so that the consumer feels comfortable using such services, then this will lead to customer satisfaction. According to Melisari in Averina & Widagda, (2021) The accuracy of delivery time is very important as it can increase customer satisfaction. Delivery time is the period from the customer ordering the product until the product arrives with the customer. Arrival estimation time becomes a customer reference to assess whether the delivery service is good or not (Jaya Sakti & Manajemen, 2018). So, it can be concluded that the timeliness of delivery is the process of delivering goods that arrive according to the time specified to the customer. The delivery timeliness can raise customer satisfaction and loyalty to the company.

3. Customer Satisfaction

Sambodo Rio Sasongko (2021) state that satisfaction is a feeling of pleasure that arises from within a person when their needs or desires are fulfilled. Customer satisfaction comes from assessing the quality of the product or service, and whose performance matches or even exceeds expectations. According to Gasing et al., (2023) Customer satisfaction is a feeling that arises after the customer uses the goods or services . The feeling of pleasure or disappointment of a customer caused by comparing the product or service obtained with customer expectations is known as customer satisfaction (Rahayu et al., 2022). Thus, it can be concluded that customer satisfaction is a feeling that arises, either happy or disappointed, when customers experience a product or service.

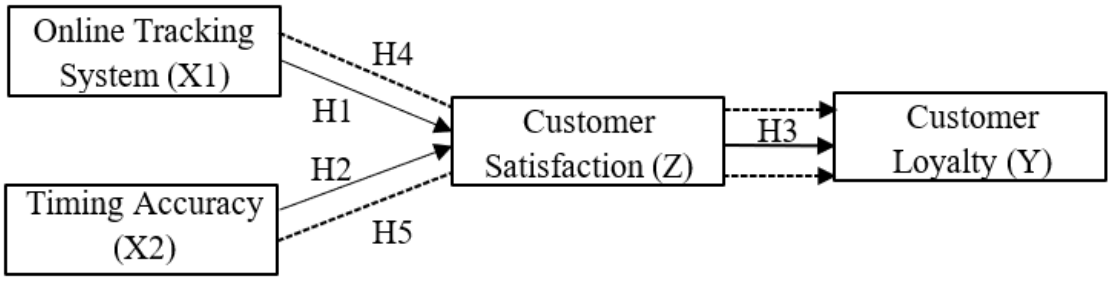
4. Customer Loyalty

According to Priansa in Winton et al., (2023), Customer loyalty is the commitment of the customer in the form of a loyal behavior to the company's product caused by using the product more than twice or repeatedly, so that the product becomes an important part of the consumer. Customer loyalty is to re-purchase a product in the future at different price rates according to Tjiptono in (Winton et al., 2023). Customer loyalty is when the customer satisfies his needs for a company's product without coercion from any party. Thus, the customer is loyal to a product without any influence of others since the urge comes from the customers themselves(Wayuni & P.Adam, 2021). Therefore, it can be concluded that

customer loyalty is the behavior of customers who are loyal to a product when customers buy more than twice or repeatedly. Loyalty is shown without the presence of coercion, then consumer loyalty to a company's product comes from the consumers themselves.

METHOD

This study used quantitative methods to determine the effect of online tracking systems and timing accuracy on customer loyalty through customer satisfaction as an intervening variable at J&T Express 2024. This study used non-probability sampling involving J&T Express East Jakarta customers, with a sample size of 96 respondents from the results of the Lemeshow formula which then rounded up to 100 samples. This study used a questionnaire distributed to J&T Express users in 2024. Respondents can provide an assessment of each question based on their personal experience using a 1-5 Likert rating scale ranging from "strongly agree" to "strongly disagree". This research test used Path analysis to test the correlation between variables. Testing using this quantitative method was assisted by the Smart PLS version 4.0 application.



Source: processed by the author

Figure 1. Conceptual Framework

H1: Online tracking systems have a positive and significant effect on customer satisfaction.
H2: Time accuracy has a positive and significant effect on customer satisfaction.
H3: Customer satisfaction has a positive and significant effect on customer loyalty.
H4: There is an indirect effect between the online tracking system and customer loyalty through customer satisfaction.
H5: There is an indirect effect between time accuracy and customer loyalty through customer satisfaction.

Table 1. Dimensions and indicators

Variable	Dimensions	Indicators
Online Tracking System (X1)	1. Reliability 2. Efficiency 3. Privacy 4. Responsiveness (Lutha et al., 2024)	1. Accurate information about the location of the package 2. Convenient use of online tracking systems on the web and applications 3. Security of customer data on the system 4. Expedition response to customer complaints
Timing Accuracy (X2)	1. Accuracy in delivery of goods 2. Accuracy in determining prices 3. Accuracy in determining the time (Luthfiyah Nuradyani et al., 2021)	1. Expedition's ability to deliver the goods accurately and on time 2. Price determines the type of service to be selected 3. Timeliness of arrival of goods as estimated
Customer Satisfaction (Z)	1. Performance 2. Expectations (Eviani & Hidayat, 2021)	1. Fast and precise service to customers 2. Matching customer expectations with service rendered
Customer Loyalty (Y)	1. Repeat Purchase 2. Retention 3. Referrals (Nosita, 2020)	1. Loyalty to the purchased product 2. Resistance to the negative impact that occurs within the company 3. Recommendation for the company

Source: processed by the author

RESULTS AND DISCUSSION

Validity and Reliability Testing

This study used the Smart PLS 4.0 application, and it obtained several measurements: convergent validity test; discriminative validity test, and composite reliability test.

Table 2. Square Root of AVE and Correlation Between Variable

Variable	AVE	Root AVE
Online Tracking System	0.662	0.814
Timing Accuracy	0.680	0.825
Customer Satisfaction	0.823	0.907
Customer Loyalty	0.735	0.857

Source: Processed Data (Smart PLS 4.0)

Based on the results obtained using SmartPLS 4.0, the AVE square root value of all variables is greater than the correlation coefficient between constructs and other constructs so it can be concluded that this value has good discriminant validity. From Table 2, it can be seen that the variables of the online tracking system, time accuracy, customer satisfaction, and customer loyalty can reflect each valid variable because the AVE value is > 0.5.

1. Reliability Testing

Examining Cronbach's Coefficient Alpha and Composite Reliability values is the most used approach for reliability testing. Ghozali in Nurcahyo & Riskayanto,(2018) states that an instrument can be considered reliable if the Cronbach's coefficient Alpa value is greater than 0.70. According to Hair et al.,(2019). The composite reliability method's value is considered accepted if the value is between 0.70 and 0.95.

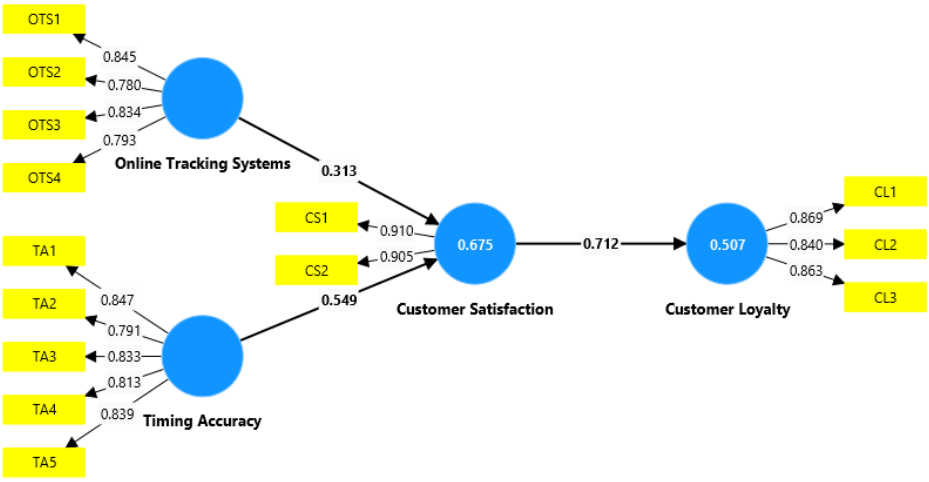
Table 3. Reliability Indicator

Variable	Composite Reliability	Cronbach's Alpha	Result
Online Tracking System	0.835	0.830	Reliable
Timing Accuracy	0.887	0.883	Reliable
Customer Satisfaction	0.785	0.785	Reliable
Customer Loyalty	0.820	0.820	Reliable

Source: Processed Data (Smart PLS 4.0)

2. Validity Testing

Convergent and discriminant validity are tested in this study. A multi-item scale validity test called convergent validity indicates a scenario in which the variance value of items measuring the same construct is higher than 70% (Hair et al., 2019). The figure below, which displays the results of the validity test, indicates that each dimension's loading factor value has value of ≥0.70, indicating that it satisfies the requirements for convergent validity.



Source: Processed Data (Smart PLS 4.0)

Figure 2. Outer Loading

3. Validity Discriminant

The application of the Fornell-Larcker Criterion approach demonstrates discriminant validity. The correlation value between the variables with other variables is known as the Fornell-Larcker Criterion value. The correlation value between a variable and its own variable must be higher than the correlation between that variable and other variables in order to evaluate the results of the Fornell-Larcker Criterion.

Tabel 4. Fornell-Larcker Criterion

	Customer Satisfaction	Timing Accuracy	Customer Loyalty	Online Tracking System
Customer Satisfaction	0.907			
Timing Accuracy	0.800	0.825		
Customer Loyalty	0.712	0.752	0.857	
Online Tracking System	0.753	0.801	0.745	0.814

Source: Processed Data (Smart PLS 4.0)

Each variable's association has a larger value than the other variables, as Table 4 demonstrates. Thus, it can be said that the information in the aforementioned table has strong discriminant validity. The value of each construct's Fornell-Lacker criterion is indicated for each highlighted number. The number that is not bold indicates the correlation value between a construct and other constructs. The table above shows that the Fornell-Lacker criterion value of each construct has the highest value in each latent variable tested with other latent variables, indicating that each indicator can be predicted well by each latent variable. Therefore, based on Table 4 results, it can be said that every construct satisfies the requirements for discriminant validity.

Direct Effect

Table 5. Direct Effect

Path	Original Sample (O)	T Statistics	P Values	F Square	Result
Customer Satisfaction → Customer Loyalty	0.712	10.751	0.000	1.029	Accepted
Timing Accuracy → Customer Satisfaction	0.549	6.040	0.000	0.333	Accepted
Online Tracking System → Customer Satisfaction	0.313	3.343	0.001	0.108	Accepted

Source: Processed Data (Smart PLS 4.0)

The hypothesis is accepted if the T statistical value is bigger than the T table. According to the hypothesis testing conducted in this study utilizing the T statistical value and the T table, Table 5 indicates a positive correlation between customer loyalty and satisfaction, with a P-Value of 0.000 < 0.05 and Tstatistics of 10.751 > 1.98. The next finding shows that customer happiness is directly affected by punctuality, with a P-value of 0.000 < 0.05 and Tstatistics of 6.040 > 1.98. A direct effect of the online tracking system on customer satisfaction is also evident, as evidenced by the T-statistics of 3.343 > 1.98 and P-value of 0.001 < 0.05.

H1: Online tracking systems have a positive and significant effect on customer satisfaction.

Tstatistic (3.343) is greater than Ttable (1.98), indicating a direct effect of the online tracking system on customer satisfaction of 0.313, and the p values meet the requirements of 0.001 <0.05, according to the test results, so that H1 in this study is accepted. The results obtained from the research indicate that there is a significant effect between the online tracking system variable and the customer satisfaction variable. The effect of the online tracking system on customer satisfaction is supported by these data. This finding is consistent with the study conducted by (Simamora & Susanti, 2017), which found a significant correlation between the online tracking system variable and customer satisfaction variable. It can be concluded that the higher the level of customer satisfaction at J&T Express is affected by the online tracking system based on the website and application that J&T Express has. The presence of an online tracking system affects 1,029 (strong) in the Fsquare test when it comes to raising customer satisfaction.

H2: Timing accuracy has a positive and significant effect on customer satisfaction.

Tstatistic of 6.040 is greater than Ttable of 1.98, indicating a direct effect of the timing accuracy on customer satisfaction of 0.549 and the p values meet the requirements of 0.000 <0.05, according to the test results,so that H2 in this study is accepted. The results obtained from the study found that there is a significant effect between the timing accuracy variable and the customer satisfaction variable.These results are in line with research conducted by in (Hafizha et al., 2019) which found that there is a significant correlation between the timeliness variable and the customer satisfaction variable. It can be concluded that the better the level of customer satisfaction at J&T Express is influenced by the delivery timeliness by J&T Express. The presence of on-time delivery has an effect of 0.333 (medium) in the Fsquare test related to increasing customer satisfaction.

H3: Customer satisfaction has a positive and significant impact on customer loyalty.

Tstatistic of 10.751 is greater than Ttable of 1.98, indicating a direct effect of the customer satisfaction on customer loyalty of 0.712 and the p values meet the requirements of 0.000 <0.05, according to the test results. Therefore, H3 in this study is accepted. The results obtained from the research found that there is a significant correlation between the customer satisfaction variable and the customer loyalty variable. These results are in line with research conducted by (Susesti Adianti & Trimarjono, 2024) which found that there is a significant correlation between the customer satisfaction variable and the customer loyalty variable. It can be concluded that the better the level of customer loyalty at J&T Express is affected by the satisfaction felt by J&T Express customers. The presence of a customer satisfaction affects 0.108 (weak) in the Fsquare test when it comes to raising customer loyalty.

Indirect Effect

Table 6. Indirect Effect

Effect	Original Sample (O)	T Statistic	P Values	Upsilon V	Result
Online Tracking System → Customer Satisfaction → Customer Loyalty	0.223	3.005	0.003	0.049	Accepted
Timing Accuracy → Customer Satisfaction → Customer Loyalty	0.391	5.247	0.000	0.152	Accepted

Source: Processed Data (Smart PLS 4.0)

The hypothesis results from the table above regarding Path Coefficients and Indirect Effect are as follows:

Table 6 shows that, with Tstatistics of 5.274 > 1.98, p-value 0.000 < 0.05, timing accuracy has an indirect effect on customer satisfaction and loyalty. Furthermore, with Tstatistics of 3.005 > 1.98 and a p-value of 0.003 < 0.05, the online tracking system also has an indirect effect on customer satisfaction, which in turn affects customer loyalty.

H4: There is an indirect correlation between the online tracking system and customer loyalty through customer satisfaction.

The analysis shows that the path coefficient value is 0.223, the t-statistic value is 3.005> 1.98, and the p values meet the requirements, which is 0.003 <0.05. Therefore, H4 in this study is accepted. The results obtained from the study found that there is a significant correlation between the online tracking system variable, the customer satisfaction variable, and the customer loyalty variable. These results are in line with research conducted by (Mondal, 2024) which states that there is a significant correlation between online tracking system variables that affect customer loyalty through customer satisfaction. It can be concluded that the level of online tracking system by J&T Express based on the website and application will affect customer satisfaction which will then make customers loyal to the company. The presence of an online tracking system has an effect of 0.049 (weak) on the UpsilonV test related to increasing customer loyalty through customer satisfaction.

H5: There is an indirect correlation between timing accuracy and customer loyalty through customer satisfaction.

The analysis shows that the path coefficient value is 0.391, the t-statistic value is 5.247 > 1.98, and the p values meet the requirements, namely 0.000 <0.05. So that H5 in this study is accepted. So the results obtained from the study found that there is a significant correlation between the timeliness variable, the customer satisfaction variable, and the customer loyalty variable. These results are in line with research conducted by (Susesti Adianti & Trimarjono, 2024) which states that there is a significant correlation between the timing accuracy variable that affects customer loyalty through customer satisfaction. It can be concluded that the better the level of on-time delivery by J&T Express will affect customer satisfaction, which will then make customers loyal to the company. The presence of on-time delivery has an effect of 0.152 (medium) on the UpsilonV test related to increasing customer loyalty through customer satisfaction.

Model Fit

1. Rsquare and Qsquare

Table 7. Rsquare and Qsquare

Variables	R^2	Q^2
Customer Satisfaction	0.675	0.664
Customer Loyalty	0.507	0.568

Source: Processed Data (Smart PLS 4.0)

The Rsquare statistical metric, which is based on the aforementioned data, indicates how much of the variation in endogenous variables in the model can be explained by other exogenous or endogenous factors. It is concluded that the online monitoring system and time accuracy variables can explain or affect the customer satisfaction variable by 67.5% (medium), and that other variables other than the study variables affect the variable by 32.5%. 50.7% (medium) of the variables pertaining to an online monitoring system, punctuality, and customer satisfaction can explain or have an effect on loyalty; 49.3% of the variables are determined by factors other than the research variables.

The predictive accuracy of each change in exogenous or endogenous variables, or how effectively they can predict endogenous variables, is measured by Qsquare. This metric is used in PLS as a validation to indicate if model predictions are appropriate. According to (Hair et al., 2019), Qsquare values greater than 0 indicate that the model has predictive relevance. The values of 0 (low effect), 0.25 (mid effect), and 0.50 (strong effect) correspond to the qualitative Qsquare interpretation. The customer satisfaction variable has a Qsquare value of 0.664 (high influence) and the customer loyalty variable has a Qsquare value of 0.568 (high influence) based on the above data processing results.

2. SRMR (Standardized Root Mean Square Residual)

Standardized Root Mean Square Residual is known as SRMR. Yamin in Andria et al., (2023) states that this number, which is the distinction between the estimated model correlation matrix and the data correlation matrix, is a measure of model fit.

Table 8. SRMR

	Saturated model	Estimated model
SRMR	0.071	0.098

Source: Processed Data (Smart PLS 4.0)

A fit model is indicated by an SRMR with value less than 0.08, according to (Hair et al., 2021),. However, an adequate fit model is indicated by an SRMR value between 0.08 and 0.10, according to Karin Schmelleh et al. in Andria et al., (2023). The model fits the data reasonably well, as indicated by the model estimation result of 0.098. Empirical evidence can clarify how the model's variables affect one another.

3. Linearity Testing

Table 9. Linearity Testing

Quadratic Effect	Path coefficient	P-value	Description
Customer Satisfaction → Customer Loyalty	0.605	0.847	Linearity fulfilled
Timing Accuracy → Customer Satisfaction	0.570	0.899	Linearity fulfilled
Online Tracking System → Customer Satisfaction	0.326	0.090	Linearity fulfilled

Source: Processed Data (Smart PLS 4.0)

According to (Hair et al., (2021), it's important to make sure the correlation between the variables is linear. It is assumed that there is a linear correlation between the variables. Testing the variable's quadratic form (QE = quadratic effect) is the test that is done. According to the results, there is no significant correlation between the square shapes of customer loyalty, timeliness, and the online tracking system and satisfaction. Therefore, the effect of these factors on loyalty is either linear or the model's linearity effect is satisfied (robust).

4. PLS-Predict

Tabel 10. PLS-Predict

	PLS-SEM_RMSE	PLS-SEM_MAE	LM_RMSE	LM_MAE
CS1	0.587	0.458	0.582	0.470
CS2	0.569	0.423	0.605	0.459
LS1	0.558	0.465	0.550	0.417
LS2	0.825	0.670	0.798	0.643
LS3	0.632	0.510	0.634	0.511

Source: Data processed (Smart PLS 4.0)

According to Hair et al., (2019) PLS is a predictive SEM analysis. To demonstrate how effective the model's predictive features are, a type of model validation measure must be created. PLS Predict functions as a means of verifying the PLS prediction test's robustness. The PLS results must be compared with the fundamental model, or the linear regression model, in order to demonstrate that they have a good degree of predictive capacity. If the Root Mean Square Error (RMSE) or Mean Absolute Error (MAE) size of the PLS model is smaller than that of the linear regression model, the PLS model is considered to have predictive potential.

a. If all measurement items of the pls model have RMSE and MAE lower than the linear regression model, the pls model has high predictive power.
b. If most of it is, then it has minimum predictive power.

Based on the processing results of 10 observations of RMSE and MAE 5 measurement items, the number of measurement items of the PLS model with RMSE and MAE values is lower than the Linear Regression model. This shows that the proposed PLS model has medium predictive power.

CONCLUSION

This research shows that the online tracking system has a positive effect on J&T Express customer experience . In addition, delivery timing accuracy effect customer satisfaction in a significant way, due to the importance of accuracy in the timing accuracy of goods delivery. The effect of online tracking systems and timing accuracy can increase customer satisfaction by providing accurate information regarding the whereabouts of their shipment and the estimated arrival of their shipment at the destination address. In addition, if users are satisfied, they will keep using the service and cause a high level of loyalty among customers, those who use the J&T Express service will continue to use the service.

REFERENCES

Aliftian Nantigiri, M. H., Handayani, S., & Veronica, V. (2021). Pengaruh Brand Image, Harga, Dan Ketepatan Waktu Pengiriman Terhadap Keputusan Pembelian Pada Jasa Pengiriman J&T Express Cabang Bekasi Tahun 2021. Jurnal Manajemen Bisnis Transportasi Dan Logistik, 7(2), 181–192. https://doi.org/10.54324/j.mbtl.v7i2.660

Andria, Y., Yoza, J., Yoserizal, Y., & Ramafina, S. F. (2023). The effect of outage duration and outage frequency on customer satisfaction of PT PLN (persero) ULP Simpang

Empat. Enrichment : Journal of Management, 13(1), 537–545. https://doi.org/10.35335/enrichment.v13i1.1280

Arroffi, A. A., Melati, C. Z., Keke, Y., & Veronica, V. (2021). The Effect of E-Tracking and Timeliness of Delivery Towards Customer Satisfaction on PT SiCepat Ekspres Cilincing During The Covid-19 Pandemic. Advances in Transportation and Logistics Research, 5778(July), 505–519. https://proceedings.itltrisakti.ac.id/index.php/ATLR/article/view/411

Averina, R. Y., & Widagda, I. G. N. J. A. (2021). PENGARUH KUALITAS PELAYANAN DAN KETEPATAN WAKTU PENGIRIMAN TERHADAP LOYALITAS KONSUMEN DENGAN KEPUASAN KONSUMEN SEBAGAI VARIABEL INTERVENING (STUDI EMPIRIS PADA EKSPEDISI LION PARCEL DI PONOROGO). Tjyybjb.Ac.Cn, 27(2), 635–637.

Eviani, I., & Hidayat, Y. R. (2021). Pengaruh Sistem Pelacakan Online dan Ketepatan Waktu Pengiriman Terhadap Kepuasan Pelanggan (Studi Kasus J&T Express Kota Baru Bekasi). Jurnal Manajemen Logistik, 1(1), 11–19. https://ojs.stiami.ac.id/index.php/JUMATIK/article/view/1253

F.Santika, E. (2024). Proyeksi Pertumbuhan e-Commerce Indonesia Tertinggi Sedunia pada 2024. Databoks.Katadata.Co.Id.

Gasing, U., Ricardianto, P., Pahala, Y., Tatiana, Y., & Handayani, S. (2023). Customer Relationship Management pada Perusahaan Pelayaran Nasional di Indonesia. Jurnal Manajemen Transportasi & Logistik (JMTRANSLOG), 10(3), 249. https://doi.org/10.54324/j.mtl.v10i3.1101

Hafizha, S., Abdurrahman, & Sri Nuryani, H. (2019). Pengaruh Kualitas Pelayanan, Ketepatan Waktu, Tarif Pengiriman, Dan Fasilitas Terhadap Kepuasan Pelanggan J&T Express. Jurnal Manajemen Dan Bisnis, 2(1). https://doi.org/10.37673/jmb.v2i1.266

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. European Business Review, 31(1), 2–24. https://doi.org/10.1108/EBR-11-2018-0203

Jaya Sakti, B., & Manajemen, J. (2018). PELANGGAN (Studi pada J&T Express Kota Semarang). Diponegoro Journal of Management, 7(4), 1–8. http://ejournal-s1.undip.ac.id/index.php/dbr

Joseph F. Hair Jr. · G. Tomas M. Hult, · C. M. R. · M. S., & Ray, N. P. D. · S. (2021). Partial Least Squares Structural Equation Modeling. In Springer. https://doi.org/10.1007/978-3-319-57413-4_15

Kurniasih, N. (2022). Pengaruh Sistem Pelacakan Berbasis Website, Kualitas Layanan Logistik Dan Penanganan Komplain Terhadap Kepuasan Pelanggan. J-Aksi : Jurnal Akuntansi Dan Sistem Informasi, 3(2), 341–346. https://doi.org/10.31949/jaksi.v3i2.3008

Lutha, I. A., Nurhajati, & Budi Wahono. (2024). Pengaruh Sistem Pelacakan Online, Ketepatan Waktu Dan Keamanan Terhadap Kepuasan Pelanggan J&T Express Lowokwaru Kota Malang (Studi Pada Mahasiswa FEB Universitas Islam Malang). Jurnal Riset Manajemen, 13(1), 115–124.

Mawarni, O. D., & Adi, S. W. (2022). Pengaruh Fasilitas Sistem Pelacakan Online, Ketepatan Waktu Pengiriman, Harga Dan Kualitas Pelayanan Terhadap Kepuasan Pelanggan J&T Express (Studi Pada J&T Express Cabang Kota Karanganyar). Eqien - Jurnal Ekonomi Dan Bisnis, 10(1), 445–450. https://stiemuttaqien.ac.id/ojs/index.php/OJS/article/view/556/372

Mondal, S. (2024). Increasing Customer Satisfaction: The Key Role of Delivery Time and Tracking in Ecommerce. Linkedin.

Muhamad, N. (2023). Ini Layanan Ekspedisi yang Banyak Digunakan Penjual E-Commerce Lokal. Databoks.Katadata.Co.Id.

Nosita, F. (2020). E-Servqual, Promosi Dan Loyalitas Pelanggan Marketplace. Journal of Applied Business Administration, 4(1), 38–44. https://doi.org/10.30871/jaba.v4i1.1937

Nurcahyo, B., & Riskayanto, R. (2018). Analisis Dampak Penciptaan Brand Image Dan Aktifitas Word of Mouth (Wom) Pada Penguatan Keputusan Pembelian Produk Fashion. Jurnal Nusantara Aplikasi Manajemen Bisnis, 3(1), 14. https://doi.org/10.29407/nusamba.v3i1.12026

Pratama, A. A. (2023). PENGARUH KUALITAS PELAYANAN TERHADAP LOYALITAS KONSUMEN DENGAN KEPUASAN KONSUMEN SEBAGAI VARIABEL MODERASI DITINJAU DARI PERSPEKTIF EKONOMI ISLAM (Studi Pada Konsumen J&T di Bandar Lampung). 4(1), 88–100.

Rahayu, A., Suripnob, S., Suhalis, A., Ricardianto, P., & Fachrial, P. (2022). Peningkatan Kepuasan Pelanggan Melalui Pengawasan Petugas TransJakarta. Jurnal Manajemen Transportasi & Logistik (JMTRANSLOG), 9(3), 201. https://doi.org/10.54324/j.mtl.v9i3.736

Sambodo Rio Sasongko. (2021). Faktor-Faktor Kepuasan Pelanggan Dan Loyalitas Pelanggan (Literature Review Manajemen Pemasaran). Jurnal Ilmu Manajemen Terapan, 3(1), 104–114. https://doi.org/10.31933/jimt.v3i1.707

Simamora, V., & Susanti, E. (2017). Pengaruh Kualitas Layanan Tracking System Berbasis Web Terhadap Kepuasan Pelanggan Melalui Persepsi Resiko Konsumen Pada Produk Jne Cilincing. Media Manajemen Jasa, 4(1), 15–29. www.journal.uta45jakarta.ac.id

Susesti Adianti, S., & Trimarjono, A. (2024). Pengaruh Kualitas Pelayanan Dan Ketepatan WaktuPengiriman Terhadap Loyalitas Pelanggan DenganKepuasan Pelanggan Sebagai Variabel Mediasi Pada J&TExpress Ptc Surabaya.

Wahyuni Nasution, S., & Ayu Nofirda, F. (2023). Pengaruh Ketepatan Waktu Pengiriman dan Kualitas Pelayanan Terhadap Kepuasan Pelanggan J&T Express Pekanbaru (Studi Kasus Pada J&T Express Payung Sekaki). Jurnal Ilmiah Mahasiswa Merdeka EMBA, 2(1), 337–347.

Wayuni, N. P. A. R., & P.Adam, R. (2021). Pengaruh Kualitas Layanan dan Kepercayaan Terhadap Loyalitas Pelanggan J&T Ekspress. Jurnal Ekonomi Bisnis, 7(4), 355–366. ejurnal.gunadarma.ac.id

Winton, K., Sukrin, S., Aswira, R., & Haryanto, A. (2023). Peran Kepuasan Pelanggan Dalam Memediasi Pengaruh Kualitas Pelayanan Terhadap Loyalitas Pelanggan PDAM Kota Baubau. Jurnal Sekretaris & Administrasi Bisnis (JSAB), 7(2), 121. https://doi.org/10.31104/jsab.v7i2.344