

# Analysis Logistics Information Systems And Waiting Line Methods On Lion Parcel Customer Satisfaction During Covid-19 (2020-2021)

Johanes Kurniawan Liauw<sup>a1\*</sup>, Erny Sulistyaningsih<sup>b2</sup>, Ariyo Adi Nurcahyo<sup>c3</sup>, Maulidiyah Usnul Khotimah<sup>d4</sup>

<sup>a,b,c,d</sup> Institut Transportasi dan Logistik Trisakti, Jakarta, Indonesia

3j.kurniawan@gmail.com<sup>1</sup>, emy0504@gmail.com<sup>2</sup>, ariyoadinur@gmail.com<sup>3</sup>, maulidiyah2002@gmail.com<sup>4</sup>

**Abstract.** This study assesses customer satisfaction with Lion Parcel during the 2020-2021 COVID-19 period, noting a substantial surge in orders during the pandemic and peak seasons. The research explores the potential of a Logistics Information System as a broader communication network for companies to send and receive information. Additionally, it employs the Waiting Line Method to address customer queue service issues. The study, involving 100 respondents categorized by gender, age, and occupation, utilizes quantitative methods with SmartPLS version 4.0. The analysis reveals that the Average Variance Extracted (AVE) values for the Logistics Information System (X1), Waiting Line Method (X2), and Customer Satisfaction (Y) exceed the 0.5 threshold, with values of 0.693, 0.625, and 0.829, respectively. The R-Square value of 0.711 suggests that all exogenous latent constructs collectively influence Customer Satisfaction (Y) by 71% in this study and 29% were influenced by other factors

**Keywords** : logistic information system, waiting line method, customer satisfaction, covid-19 pandemic

**Abstrak.** Penelitian ini menilai kepuasan pelanggan terhadap Lion Parcel selama periode COVID-19 2020-2021, dengan mencatat lonjakan pesanan yang substansial selama pandemi dan peak season. Penelitian ini mengeksplorasi potensi Sistem Informasi Logistik sebagai jaringan komunikasi yang lebih luas bagi perusahaan untuk mengirim dan menerima informasi. Selain itu, penelitian ini juga menggunakan Metode Waiting Line untuk mengatasi masalah layanan antrian pelanggan. Penelitian yang melibatkan 100 responden yang dikategorikan berdasarkan jenis kelamin, usia, dan pekerjaan ini menggunakan metode kuantitatif dengan SmartPLS versi 4.0. Hasil analisis menunjukkan bahwa nilai Average Variance Extracted (AVE) untuk Sistem Informasi Logistik (X1), Metode Antrian (X2), dan Kepuasan Pelanggan (Y) melebihi ambang batas 0,5, dengan nilai masing-masing 0,693, 0,625, dan 0,829. Nilai R-Square sebesar 0.711 menunjukkan bahwa semua konstruk laten eksogen secara bersama-sama mempengaruhi Kepuasan Pelanggan (Y) sebesar 71% dalam penelitian ini dan 29% dipengaruhi oleh faktor lain.

**Kata Kunci** : sistem informasi logistik, metode garis tunggu, kepuasan pelanggan, pandemi covid-19

## 1. Introduction

Customer satisfaction has become the main focus for many companies in various industrial sectors. Research on customer satisfaction is an important step to understanding how companies can improve their services, retain existing customers, and attract new customers. During this time,

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\*Corresponding author's e-mail : 3j.kurniawan@gmail.com

customer satisfaction has become an important performance indicator for many companies. However, customer satisfaction conditions can be influenced by various factors, one of which is external factors, namely the Covid-19 pandemic.

During the Covid-19 pandemic, customer satisfaction conditions in many industrial sectors experienced significant changes. The pandemic has forced many companies to change the way they operate, such as reducing physical contact, dealing with disrupted supplies, and adapting their services to changing customer needs. Therefore, it is important to understand how this pandemic has affected customer satisfaction, whether it has been the same, decreased, or even increased during this time.

Apart from that, the role of waiting line methods and logistics information systems is also very important in this context. An efficient queuing system and good logistics information system can contribute significantly to increasing customer satisfaction. A good waiting line method can reduce customer waiting time, while an efficient information logistics system can ensure products or services are available on time.

Logistics is the science or activities related to planning, organizing, directing and controlling in order to obtain, store, move and distribute goods and services from sources to consumers Dr. Ir. Suntoro (2020).

A logistics information system is a wider communication network within an organization or company that must be prepared to create or send and be able to receive information submitted by the organization or company. Apart from that, there are efforts made to collect, strengthen and utilize company or organization data as a basis for company strategy in making decisions that can be useful for the company or organization Firmansyah & Hafidudin (2019).

The Logistics Information System at PT Lion Parcel involves various components, such as delivery tracking systems, inventory management, and internal communications. Good integration between these systems enables the Company. Logistics information systems (LIS) refer to the use of information technology to manage and coordinate various logistics activities within an organization. In the context of Lion Parcel, LIS is a framework that integrates order receipt, delivery management, route scheduling, and delivery status monitoring. LIS not only provides real-time operational information, but can also provide strategic insights that support decision making in logistics aspects.

Queuing theory is a theory that concerns the mathematical study of queues or waiting lines. The formation of waiting lines is of course a service that exceeds the available capacity if the need for a service exceeds the available capacity to provide that service Firmansyah & Hafidudin (2019).

In a logistics context, the concept of a waiting line refers to a situation where products or orders must queue to receive service or be processed. Queuing theory is a mathematical analysis tool used to understand and optimize queuing situations. At the Lion Parcel Company, the waiting line method is used to manage the flow of receiving and processing customer orders.

Implementing the waiting line method at PT Lion Parcel involves steps such as determining the number of cashiers or order reception staff, estimating service time, and identifying bottleneck points that can slow down the process. A deep understanding of waiting line methods allows companies to allocate resources efficiently and reduce customer waiting time.

Customer satisfaction means a comparison between what consumers expect and what consumers feel when using the product. If consumers feel the product's performance is the same as or exceeds their expectations, it means they are satisfied. On the other hand, if the product performance is less than their expectations, it means they are not satisfied. Satisfaction is the level of a person's feelings after comparing the performance or results they feel with their expectations Gultom et al (2020).

Indicators for measuring customer satisfaction, according to Indrasari & Press (2019) :

Conformity to expectations, namely satisfaction is not measured directly but concluded based on the conformity or discrepancy between expectations customers with actual company performance.

Interest in returning to visit, namely customer satisfaction measured by ask whether the customer wants to buy or reuse the service company.

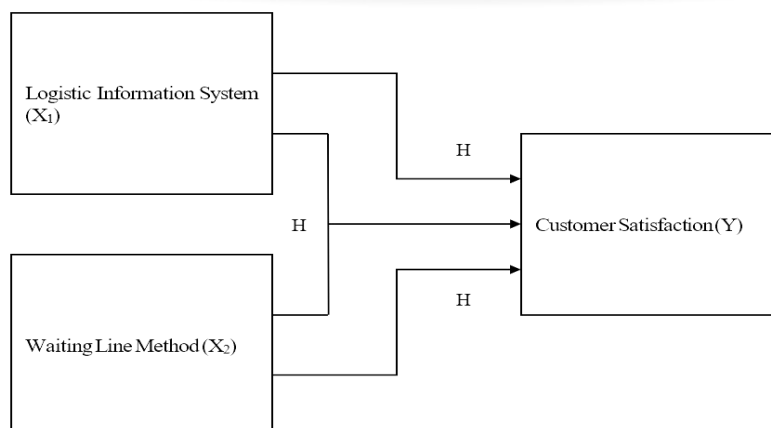


Figure 1. Framework

Starting from the rationale and thinking framework described, the hypotheses put forward by this researcher are:

H1: It is suspected that the Logistics Information System has an influence on customer satisfaction during the Covid-19 pandemic at Lion Parcel.

H2: It is suspected that the Waiting Line Method has an influence on customer satisfaction during the Covid-19 pandemic at Lion Parcel.

H3: It is suspected that the Logistics Information System and Waiting Line Method have an influence on customer satisfaction during the Covid-19 pandemic at Lion Parcel.

## 2. Research Method

The type of survey used was a quantitative survey. The tool used in managing results for all respondents is Smart PLS version 4, which is used to explain the analysis of the logistics information system and the waiting line method on customer satisfaction at Lion Parcel. This research includes survey research, where data collection is carried out using a questionnaire.

The population in this research is all users of the Lion Parcel expedition service who used its services during the Covid-19 pandemic, namely in July 2021. The sampling technique used in this study was a saturation sampling. According to Sugiyono (2019), saturated sampling is a sampling technique when all members of the population are used as samples. The condition of the respondents who were sampled were customers who had used the Lion Parcel expedition service. The number of samples taken was 100 respondents. The sample size was taken using the Hair formula. According , Hair et al. (2013) The Hair formula is used because the population size is not yet known with certainty. that the minimum sample size is 5-10 observations for each parameter being estimated. In this research, the sample size was 100 respondents from Lion Parcel consumers. So, with a total of 20 indicators multiplied by 5. So, through calculations based on this formula, the number of samples from this research is 100 respondents from Lion Parcel consumers.

## 3. Results and Discussion

Hasil penelitian harus dipaparkan secara jelas dan menjawab rumusan masalah. Diskusi pada The objective of this data study is to asses the effects of Logistics information systems ( $X_1$ ), Waiting Line Method ( $X_2$ ), and Customer Satisfaction ( $Y$ ) of Lion Parcel. Of the 100 overall respondents, there is a percentage of sex of 54.1% of men and 45.9% of females; age percentages of 0% of < 18 years old, 25.7% of 18–25 years old, 39.2% of 26–35 years old, 32.4% of 36–50 years old, and 2.7% >50 years old; job percentages amount to 20% of students, 46% of private employees, 11% of entrepreneurs, 3% of civil servants and 20% of others. The data analysis results will be used to prove hypotheses one through the construct validity test stage which consists of convergent validity, which pays attention to the loading factor value, AVE value and discriminant validity as indicated by the cross loading value.

Table 1. Characteristics of Respondents

|             |                   | Frequency | %    |
|-------------|-------------------|-----------|------|
| Gender      | Male              | 54        | 54.1 |
|             | Woman             | 46        | 45.9 |
|             | <b>Total</b>      | 100       | 100  |
| Age (years) | < 18 years old    | -         | 0.0  |
|             | 18 – 25 years old | 26        | 25.7 |
|             | 26 – 35 years old | 40        | 39.2 |
|             | 36 – 50 years old | 32        | 32.4 |
|             | > 50 years old    | 2         | 2.7  |
|             | <b>Total</b>      | 100       | 100  |

|     | Frequency         |     | %   |
|-----|-------------------|-----|-----|
| Job | Students          | 20  | 20  |
|     | Private Employees | 46  | 46  |
|     | Entrepreneurs     | 11  | 11  |
|     | Civil servants    | 3   | 3   |
|     | Others            | 20  | 20  |
|     | <b>Total</b>      | 100 | 100 |

Table 2. Result of the Data Processing Validity Test (Outer Loading)

| Variable                                           | Indicators | Outer Loading |
|----------------------------------------------------|------------|---------------|
| Logistics information systems<br>(X <sub>1</sub> ) | SIL1       | 0.802         |
|                                                    | SIL2       | 0.834         |
|                                                    | SIL3       | 0.757         |
|                                                    | SIL4       | 0.826         |
|                                                    | SIL5       | 0.828         |
|                                                    | SIL6       | 0.832         |
|                                                    | SIL7       | 0.863         |
|                                                    | SIL8       | 0.894         |
|                                                    | SIL9       | 0.848         |
| Waiting Line Method<br>(X <sub>2</sub> )           | WL1        | 0.812         |
|                                                    | WL2        | 0.811         |
|                                                    | WL3        | 0.765         |
|                                                    | WL4        | 0.830         |
|                                                    | WL5        | 0.769         |
|                                                    | WL6        | 0.864         |
|                                                    | WL7        | 0.798         |
| Customer Satisfaction (Y)                          | KP1        | 0.908         |
|                                                    | KP2        | 0.917         |
|                                                    | KP3        | 0.914         |
|                                                    | KP4        | 0.904         |

Source: Data Result, 2023

Based on the data in table 2, it is known that many of the research variable indicators have an outer loading value of  $>0.70$ . The data above shows that there are no variable indicators whose outer loading value is below 0.5, so that all indicators are declared suitable or valid for research use and can be used for further analysis. This states that it has a high level of validity, so it meets convergent validity. Thus, this model meets the criteria for good convergent validity. All indicators for the logistics information system variables, waiting line methods and customer satisfaction already have factor loading values above 0.70. Thus, the indicators forming the construct of the logistics information system, waiting line method and customer satisfaction are categorized as valid.

Tabel 3. Result of the Average Variance Extracted (AVE)

| Variabel                                        | Average Variance Extracted (AVE) |
|-------------------------------------------------|----------------------------------|
| Logistics Information Systems (X <sub>1</sub> ) | 0.693                            |
| Waiting Line Method (X <sub>2</sub> )           | 0.625                            |
| Customer Satisfaction (Y)                       | 0.829                            |

Source: Data Result, 2023

Based on the AVE table and image, it can be seen that the AVE value for the Logistics Information System variable is  $>0.5$  or 0.693, for the Waiting Line Method variable  $>0.5$  or 0.625, and for the Customer Satisfaction variable  $>0.5$  or 0.829. This shows that each variable has good discriminant validity.

Table 4. Discriminant Validity Results (Cross Loading)

|      | X1    | X2    | Y     |
|------|-------|-------|-------|
| KP1  | 0.753 | 0.713 | 0.908 |
| KP2  | 0.748 | 0.710 | 0.917 |
| KP3  | 0.755 | 0.701 | 0.914 |
| KP4  | 0.778 | 0.724 | 0.904 |
| SIL1 | 0.802 | 0.700 | 0.755 |
| SIL2 | 0.834 | 0.696 | 0.645 |
| SIL3 | 0.757 | 0.615 | 0.615 |
| SIL4 | 0.826 | 0.671 | 0.685 |
| SIL5 | 0.828 | 0.669 | 0.638 |
| SIL6 | 0.832 | 0.774 | 0.678 |
| SIL7 | 0.863 | 0.752 | 0.764 |
| SIL8 | 0.894 | 0.784 | 0.733 |
| SIL9 | 0.848 | 0.766 | 0.701 |
| WL1  | 0.720 | 0.812 | 0.591 |
| WL2  | 0.722 | 0.811 | 0.694 |
| WL3  | 0.551 | 0.765 | 0.456 |
| WL4  | 0.763 | 0.830 | 0.724 |
| WL5  | 0.614 | 0.769 | 0.535 |
| WL6  | 0.834 | 0.864 | 0.731 |
| WL7  | 0.590 | 0.798 | 0.607 |

Source: Data processed by SmartPLS version 4.0, 2023

Based on Table 4, the cross loading values for the logistics information system quality variable with seven measurement indicators are SIL1 = 0.802, SIL2 = 0.834, SIL3 = 0.757, SIL4 = 0.826, SIL5 = 0.828, SIL6 = 0.832, SIL7 = 0.863, SIL8 = 0.894, SIL9 = 0.848. The variable values for the Waiting Line Method with seven measurement indicators are WL1 = 0.812, WL2 = 0.811, WL3 = 0.765, WL4 = 0.830, WL5 = 0.769, WL6 = 0.864, WL7 = 0.798. The value of the Customer Satisfaction variable with four measurement indicators is KP1 = 0.908, KP2 = 0.917, KP3 = 0.914, KP4 = 0.904. All indicators for the Logistics Information System, Waiting Line Method and Customer Satisfaction variables already have cross loading values above 0.70. This means that each

latent variable already has good discriminant validity, meaning that the latent variable has a measuring instrument that is highly correlated with other constructs or that discriminant validity at the indicator level is met.

Table 5. The result of Analysis Cronbach's Alpha

| Variable                                | Cronbach's Alpha |
|-----------------------------------------|------------------|
| Logistics Information Systems ( $X_1$ ) | 0.944            |
| Waiting Line Method ( $X_2$ )           | 0.912            |
| Customer Satisfaction (Y)               | 0.931            |

Source: Data Result, 2023

Based on the tables and graphs of the results from Cronbach's alpha, the Logistics Information System variable is  $>0.7$ , which is 0.944, the Waiting Line Method is  $>0.7$ , which is 0.912, and Customer Satisfaction  $>0.7$ , which is 0.931. Thus, these results can show that each research variable has met the Cronbach's Alpha value requirements, so it can be concluded that all variables have a high level of reliability.

Table 6. The result of analysis Composite Reliability

| Variable                                | Composite Reliability |
|-----------------------------------------|-----------------------|
| Logistics Information Systems ( $X_1$ ) | 0.946                 |
| Waiting Line Method ( $X_2$ )           | 0.921                 |
| Customer Satisfaction (Y)               | 0.931                 |

Source: Data Result, 2023

The composite reliability value produced for each logistics information system variable, waiting line method and service quality is  $>0.7$ , where the composite reliability value of the Logistics Information System variable is 0.946, the Waiting Line Method is  $>0.7$ , which is 0.921, and Customer Satisfaction is  $>0.7$ , which is 0.931. Judging from the composite reliability value for each variable, the magnitude is  $>0.7$ , indicating that the three variables are reliable.

Tabel 7. The result of analysis R-Square

| Variable              | R-Square |
|-----------------------|----------|
| Customer Satisfaction | 0.711    |

Source: Data Result, 2023

Based on the output of the analysis using the bootstrapping method, it can be seen that the R-Square value is 0.711, which can be explained that all exogenous latent constructs have an effect on Y of 0.711 or 71% in this study.

Tabel 8. Path Coefficients (Original Sample, T Statistics, P Values)

|         | Original sample (O) | Sample mean (M) | Standard deviation (STDEV) | T statistics ( O /STDEV) | P values |
|---------|---------------------|-----------------|----------------------------|--------------------------|----------|
| X1 -> Y | 0.617               | 0.615           | 0.107                      | 5.796                    | 0.000    |
| X2 -> Y | 0.251               | 0.250           | 0.107                      | 2.345                    | 0.019    |

Source: Data Result, 2023

Based on these results, it can be concluded that the Logistics Information System has a significant positive effect on Customer Satisfaction as indicated by the original sample of 0.617. The significant value, namely 0.000, is smaller than the alpha level of 5%. This is indicated by the  $t_{\text{statistic}}$  value of 5.796 which is greater than 1.96 ( $t_{\text{table}}$ ). Then, the Waiting Line Method also has a positive and significant effect on customer satisfaction as shown by the original sample of 0.251. The significant value, namely 0.019, is smaller than the alpha level of 5%. This is indicated by the  $t_{\text{statistic}}$  value of 2.345 which is greater than 1.96 ( $t_{\text{table}}$ ).

Table 9. Effect of Independent Variable on Dependent Variable

|                                                     | Value (y) | $T_{\text{statistics}}$ | $T_{\text{table}}$ | $\alpha$ | $P_{\text{Values}}$ | Summary                                                                                                 |
|-----------------------------------------------------|-----------|-------------------------|--------------------|----------|---------------------|---------------------------------------------------------------------------------------------------------|
| Logistics Information Systems Customer Satisfaction | 0.617     | 5.796                   | 1.96               | 0.05     | 0.000               | $t_{\text{count}} > t_{\text{table}}$<br>$P_{\text{value}} < \alpha$<br>(H1 is accepted by H0 rejected) |
| Waiting Line Method Customer Satisfaction           | 0.251     | 2.345                   | 1.96               | 0.05     | 0.019               | $t_{\text{count}} > t_{\text{table}}$<br>$P_{\text{value}} < \alpha$<br>(H2 is accepted by H0 rejected) |

Source: Data Result, 2023

Tabel 10. The Influence of Independent Variable Simultaneously on the Dependent Variable

|                                                                         | $RSquare (R^2)$ | $T_{\text{statistics}}$ | $F_{\text{table}}$ | $\alpha$ | Summary                                                                  |
|-------------------------------------------------------------------------|-----------------|-------------------------|--------------------|----------|--------------------------------------------------------------------------|
| Logistics Information Systems Waiting Line Method Customer Satisfaction | 0.711           | 119,320                 | 3.12               | 0.05     | $F_{\text{count}} > F_{\text{table}}$<br>(H3 is accepted by H0 rejected) |

Source: Data Result, 2023

Hypothesis 1: The Logistics Information System variable has ( $y$ ) which is 0.617 with a  $t$ -statistic value of 5.796 and a  $t$ -table value at  $\alpha$  of 0.05, namely 1.96 and a  $p$ -value of 0.000 or less than 0.05. Through the results of the  $t$ -test between the Logistics Information System and Customer Satisfaction, this means that  $t_{count} (5.796) > t_{table} (1.96)$ , then  $H_1$  is accepted and  $H_0$  is rejected.

Hypothesis 2: The Waiting Line Method variable has ( $y$ ) which is 0.251 with  $t$ -statistic value 2.345 and the  $t$ -table value at  $\alpha$  0.05 is 1.96 and the  $P$ -value is 0.019 or smaller than 0.05. Through the results of the  $t$ -test between the Waiting Line Method and Customer Satisfaction, this means that  $t_{count} (2.345) > t_{table} (1.96)$ , then  $H_2$  is accepted and  $H_0$  is rejected.

Hypothesis 3: The  $R^2$  value for the customer satisfaction variable is 0.711 with  $F_{count}$  119.320 and the  $F_{table}$  value at  $\alpha$  0.05, namely 1.96. This means that  $F_{count} (119,320) > F_{table} (3,12)$ , then  $H_3$  is accepted and  $H_0$  is rejected. Thus it can be concluded that hypothesis 3 is proven, namely the Logistics Information System and the Waiting Line Method have a positive and significant influence of 71% on Customer Satisfaction. Meanwhile, 29% is influenced by other variables outside the research model.

#### Analysis of Logistics Information Systems ( $X_1$ ) on Customer Satisfaction ( $Y$ )

After distributing questionnaires to PT Lion Parcel customers, the research results showed that there were 9 statement items in the Logistics Information System variable, so the results of the descriptive analysis showed that the Logistics Information System was seen from the total weighted average of 4.06.

In the 9 statements in the Logistics Information System variable, the average result of respondents' responses was the weight of the score with the highest value, namely the statement "Lion Parcel officers can explain informatively in explaining the lionparcel.com application to customers." with an average of 4.16, this shows that customers strongly agree that PT Lion Parcel employees provide good attention in handling customer needs so that customers feel satisfied. Meanwhile, for the average results of respondents' responses, the score with the lowest value is the statement "Lion Parcel rarely experiences delays in delivery. They tend to honor promised delivery schedules, which is a positive thing for customers." with an average of 3.95, this shows that PT Lion Parcel employees still lack commitment in estimating delivery times, thus causing customer dissatisfaction.

#### Analysis of Waiting Line Method ( $X_2$ ) on Customer Satisfaction ( $Y$ )

After distributing questionnaires to PT Lion Parcel customers, the research results showed that there were 7 statement items in the Waiting Line Method variable, so the results of the descriptive analysis showed that the Waiting Line Method was seen from the total weighted average of 3.91.

In the 7 statements in the Waiting Line Method variable, the average result of respondents' responses is the weight of the score with the highest value, namely the statement "Lion Parcel queues tend to be longer at certain times. Usually, these times occur during peak hours. Such as in the morning when many people send packages before work, and also towards the weekend when

customers pick up or send items before the holidays.” with an average of 4.21, this shows that PT Lion Parcel has met customer needs in accordance with customer expectations, in this case customers get modern technology services such as an online package drop system and providing detailed company information. Meanwhile, for the average results of respondents' responses, the score with the lowest value is the statement "Lion Parcel customers tend to refuse and do not want to join the queue if the customer feels the waiting time is too long to get service." with an average of 3.85, this shows that the company is still lacking in serving customer needs quickly, causing queues and long waiting times. This makes customers feel dissatisfied.

Analysis of Logistics Information System ( $X_1$ ) and the Waiting Line Method ( $X_2$ ) to customer satisfaction ( $Y$ )

After distributing questionnaires to PT Lion Parcel customers, the research results showed that there were 4 statement items in the Customer Satisfaction variable, so the results of the descriptive analysis showed that Customer Satisfaction from the total weight average was 4.07.

In the 4 statements in the Customer Satisfaction variable, the average result of respondents' responses is the weight of the score with the highest value, namely the statement "Customers are satisfied and use the Lion Parcel expedition service again." with an average of 4.16, this shows that customers strongly agree that PT Lion Parcel provides services that meet expectations and in accordance with the prices paid for expedition services by customers. Meanwhile, for the average results of respondents' responses, the weight of the score with the lowest value is the statement "Customers recommend Lion Parcel to other customers to use Lion Parcel services as the main choice in using expedition services." with an average of 3.96, this shows that customers feel that the service provided by PT Lion Parcel is less than optimal, with customer expectations causing customers to not be interested in recommending it to other customers.

#### 4. Conclusion

Based on the results of research conducted by the author at PT Lion Parcel regarding Analysis of Logistics Information Systems and Waiting Line Methods on Customer Satisfaction During the Covid-19 Pandemic (Case Study of PT Lion Parcel for the 2020-2021 Period) the following conclusions can be drawn:

1. The Logistics Information System variable ( $X_1$ ) has an influential relationship with Customer Satisfaction ( $Y$ ), where the  $t_{\text{statistic}}$  value is 5.796 and the  $t_{\text{table}}$  value at alpha 0.05 is 1.96 and the  $p_{\text{value}}$  is 0.00 or smaller than 0.05. Through the results of the t-test between the Logistics Information System and customer satisfaction, this means that  $t_{\text{count}} (5.796) > t_{\text{table}} (1.96)$ , then  $H_1$  is accepted and  $H_0$  is rejected. The results of the analysis show that the Logistics Information System as the first variable is proven to have a significant effect on customer satisfaction, meaning that the hypothesis is accepted.
2. The Waiting Line Method variable ( $X_2$ ) has a significant relationship with Customer Satisfaction ( $Y$ ), where the  $t_{\text{statistic}}$  value is 2.345 and the  $t_{\text{table}}$  value at alpha 0.05 is 1.96 and the  $p_{\text{value}}$  is 0.019 or smaller than 0.05. Through the results of the t-test between the

Waiting Line Method and customer satisfaction, this means that  $t_{\text{count}} (2.345) > t_{\text{table}} (1.96)$ , then H2 is accepted and H0 is rejected. The results of the analysis show that the Waiting Line Method as the second variable is proven to have a significant effect on customer satisfaction, meaning that the hypothesis is accepted.

3. In the Logistics Information System ( $X_1$ ) and Waiting Line Method ( $X_2$ ) variables on Customer Satisfaction ( $Y$ ), where the  $R^2$  value for the customer satisfaction variable is 0.711 with  $F_{\text{count}} 119.320$  and the  $F_{\text{table}}$  value at alpha 0.05, namely 1.96. This means that  $F_{\text{count}} (119.320) > F_{\text{table}} (3.12)$ , then H3 is accepted and H0 is rejected. The results of the analysis show that the Logistics Information System and the Waiting Line Method as variables together are proven to have a significant effect on customer satisfaction, meaning that the hypothesis is accepted.

### Implications

From the discussion of the research that has been carried out, it produces implications related to Logistics Information Systems, Waiting Line Methods, and Customer Satisfaction at PT Lion Parcel, including:

1. To increase customer satisfaction during the Covid-19 pandemic, as a means of fulfilling expectations, the company is expected to improve through facilities and infrastructure indicators in the Logistics Information System variable.
2. To increase customer satisfaction during the Covid-19 pandemic as a fulfillment of expectations, the company is expected to improve through indicators of arrival patterns in the Waiting Line Method variable.
3. To increase customer satisfaction during the Covid-19 pandemic as a fulfillment of expectations, the company is expected to increase interest in returning visits together on the Logistics Information System and Waiting Line Method variables.

With the research limitations that the author found, it is hoped that future researchers can develop this research model to be complex, such as adding new variables that influence customer satisfaction. In this research, it only includes two variables, namely the Logistics Information System and the Waiting Line Method and conducting research with objects which is different from previous research which will produce better research in subsequent research.

### Research limitations

1. Looking for respondents who use Lion Parcel for quite a long time. Thus, researchers found difficulties when distributing questionnaires to respondents.
2. The researcher did not include other factors that might be present in the questionnaire that influence the decision to use an expedition service, because the author only focused on gender, age and occupation. Such as the respondent's monthly needs and income which may be related to the decision to use an expedition service.

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