ANALYSIS OF THE MAIN FACTORS IN CUSTOMER SATISFACTION FOR LOGISTICS SERVICE COMPANIES

UNDERGRADUATE THESIS

Submitted to the International Undergraduate Program in Industrial Engineering in Partial Fulfilment of Requirement for the Degree of Sarjana Teknik at the Faculty of Industrial Technology Universitas Islam Indonesia

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DEDICATION PAGE

This undergraduate thesis is dedicated to my beloved parents who always give me prayers, support, and incredible patience, and all of the readers, especially Industrial Engineering Department students as one of the collections in developing the knowledge.

MOTTO

"**Then which of the favors of your Lord will you deny?**" (QS. Ar-Rahman: 13)

"**Then which of the favors of your Lord will you deny?**" (QS. Ar-Rahman: 16)

"**Then which of the favors of your Lord will you deny?**" (QS. Ar-Rahman: 18)

PREFACE

Assalamu'alaikum Warahmatullahi Wabarakatuh

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Dwi Abdul Rahim

ABSTRACT

This final project aims to analyze the factors and indicators that affect customer satisfaction of logistics service companies. Factor analysis was conducted with Confirmatory Factor Analysis (CFA) based on 20 indicators from previous literature. The results of the factor analysis identified three main factors: Effectiveness and Performance (E), Service Quality (Q), and Service Competence (C). These factors explain how services are tailored to customers of logistics service companies. Then, factor priorities were determined using the Analytical Hierarchy Process (AHP) based on pairwise comparisons involving the three factors. The results show that the Effectiveness and Performance factors are the most dominant factors in influencing logistics service company customer satisfaction. This research provides recommendations to logistics service companies to improve customer satisfaction strategies. The recommendations include customized training, individual soft skill development, comprehensive educational materials, regular discussions and Q&A, mentoring, feedback, developing SOPs, and having accessibility to collaboration with local partnerships. By implementing these strategies, it is expected to improve service quality, customer satisfaction, and company reputation, and support the long-term business growth of logistics service companies.

Keywords: Customer satisfaction, logistics, service companies, priority indicator, main factor, *Confirmatory Factor Analysis* (CFA), *Analytical Hierarchy Process* (AHP)

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CHAPTER I
INTRODUCTION

1.1 Background

Logistics service companies play a central role in the global distribution system, and the effectiveness of their services greatly affects operational success and customer satisfaction. According to (Donald J. Bawersox et al., 2012), success in this industry is not only determined by speed and efficiency in managing transportation and warehousing but also by how companies can meet and exceed customer expectations. In this context, (Christopher, 2011) asserted that companies must have a deep understanding of customer needs as well as the ability to manage information accurately and responsively. This is very important because seamless integration between operational processes and customer needs can ensure that companies not only meet but also exceed customer expectations. (Lambert & Cooper, 2000) also suggested that a strategy that combines operational efficiency with service quality is key to providing reliable and satisfactory solutions. In addition, (Mckinnon, 2018) emphasized the necessity for companies to implement adaptable and flexible strategies in order to address the changing expectations of customers and the market. Therefore, logistics service companies should concentrate on the development of service strategies that are not only efficiency-oriented but also aimed at enhancing the customer experience in order to sustain their competitiveness in a market that is becoming increasingly competitive.

The success of logistics service companies is significantly influenced by customer satisfaction; however, the numerous factors involved can make it difficult to manage. Customer satisfaction is influenced by a variety of factors, including Assurance, Tangible, Responsiveness, Empathy, and others, as well as their derived indicators of customer needs, as demonstrated by prior research. Companies often encounter challenges in establishing development priorities due to the complexity of the situation, as no single factor is the primary determinant. Consequently, it is imperative to adopt a systematic approach to the effective management and comprehension of the diverse factors that affect consumer satisfaction.

This research has substantial advantages in the context of logistics service companies' customer satisfaction management. This research will assist companies in identifying critical areas for improvement by undertaking a comprehensive examination of the factors that influence satisfaction. The company's capacity to create more precise and efficient strategies to enhance service quality is one of its primary advantages. This research is also significant because it offers companies clear guidance on how to more effectively address customer requirements, thereby enhancing customer satisfaction and, in the end, facilitating the company's growth and success in a competitive market.

This research will utilize Confirmatory Factor Analysis (CFA) and Analytical Hierarchy Process (AHP) methods to effectively identify and prioritize the elements that impact customer satisfaction. Confirmatory Factor Analysis (CFA) will be employed to validate and verify the factor structure that impacts customer satisfaction. Additionally, CFA will be utilized to minimize this structure by focusing on the elements found in earlier research. Additionally, the Analytic Hierarchy Process (AHP) will be employed to rank these criteria, offering precise strategic direction on which parts should be given the highest priority in order to enhance consumer satisfaction.

It is hoped that this research will assist companies in comprehending the factors that have the greatest influence on customer satisfaction and in the development of more effective strategies to enhance these areas. Companies can enhance their overall service quality, which will have a beneficial effect on customer satisfaction, by implementing the results of this research.

1.2 Problem Formulation

Based on the background that has been described, the following is the problem formulation of this research:

1. What are the factors and indicators of customer satisfaction in logistics service companies?
2. How to prioritize factors and indicators of customer satisfaction in logistics service companies?
3. What are the recommendations from the results of measuring customer satisfaction in logistics service companies?

1.3 Research Objectives

The following are the objectives of this research:

1. Identify factors and indicators of customer satisfaction in logistics service companies
2. Prioritizing factors and indicators of customer satisfaction in logistics service companies
3. Provide recommendations from the results of measuring customer satisfaction in logistics service companies

1.4 Benefits of research

The following are the benefits of this research:

1. This research can provide an overview of companies or other types of businesses to measure customer satisfaction.
2. This research can be used as a reference for future studies on customer satisfaction.

1.5 Research Limitations

There are several limitations of this research, defined as follows:

1. This research only takes questionnaire data from company users in the logistics service sector.
2. This research only identifies factors and indicators of logistics service companies from previous literature.
3. This research only weighted the results of the factor analysis.

CHAPTER II
LITERATURE REVIEW

2.1 Inductive Study

The service industry has several types of businesses that can be offered in each field, many previous studies discuss customer satisfaction in companies in the service sector with various methods, such as logistics services, such as (Matulatuwa, 2017) with the object of the Ambon Branch of Pos Indonesia with the SERVQUAL Method which is usually used in measuring service quality, obtained the most dominant indicators such as *Reliability* where customers can track the whereabouts of packages/letters, employees can provide services quickly on *Responsiveness* and *Tangible* with sufficient waiting space. Furthermore (Fanani et al., 2020) with the object of PT Tiki Jalur Nugraha Ekakurir (JNE) with the *Analytical Hierarchy Process* (AHP) Method and *Customer Satisfaction Index* (CSI) with the most dominant indicator dimensions owned by *Information Quality, Ordering Release Quantities, Order Accuracy*, and *Physical Distribution* where this company has easy access to information about services, the accuracy of service information provided, the suitability of service information and costs, and the availability of service coverage. Then, there is (Astuti & Fatma, 2017) the object of comparison between TIKI, Pos, and JNE courier services using the *Analytical Hierarchy Process* (AHP) method, starting with *Reliability* with the ability of couriers to deliver products according to their original conditions, then Cost paid by service users to obtain delivery services, then the ease of customers to obtain services, and the types of services available are tailored to customer needs, the highest value of the three courier services is owned by JNE by 39.15% superior to TIKI and Pos Indonesia.

Customer satisfaction research can also be carried out on financial services (Attamimi & Maryani, 2019) with the object of Bank BNI Syariah Ciputat Branch with the *Importance Performance Analysis* (IPA) Method and *Customer Satisfaction Index* (CSI), it is found that indicators that must be maintained such as *Reliability* with indicators that employees are responsible for their duties and have good knowledge of their products. Furthermore (Wijaya

& Wismantoro, 2017) with the object of Jiwasraya Insurance, Kudus Branch with the *Confirmatory Factor Analysis* (CFA) Method, the most influential indicators are *Product Quality* and *Price Perception* with indicators of insurance products offered that have appropriate quality, provide convenience for consumers, premium prices that can compete, and prices by the benefits obtained by customers.

In the service sector, there are also transportation services such as planes that are commonly used by customers to travel by air and taxis to go somewhere with different provisions and services, such as (E. P. Sari et al., 2014) with the object of Garuda Indonesia Airlines using the *Importance Performance Analysis* (IPA) method, it is found that the company must maintain the timeliness of departure and arrival, handling actions when there is a delay, and security for passengers during the flight in the *Reliability* dimension, then the speed of service and the ability to communicate well and effectively with employees in the *Responsiveness* and *Empathy* dimensions by considering prices that are in accordance with standards and the purchasing power of the community in purchasing plane tickets. Furthermore, (Rosa & Yunita, 2014) the object of Blue Bird Taxi uses the same method *Importance Performance Analysis* (IPA), with indicators that must be maintained *Tangible*, such as a good and decent car, maintaining car cleanliness, clean and neat employee appearance, and car facilities (Argo, air conditioning, windows, etc.) complete and functioning properly, then on *Assurance*, such as the appropriate Argo, providing a sense of security to customers and their luggage, and employees have good knowledge and are friendly and polite. Then, there is (Lestari et al., 2018) the object of Online Taxis using the *Confirmatory Factor Analysis* (CFA) method with various factors, such as *Comfort, Tangible, Personnel*, and *Reliability* the three highest indicators in a row are Feeling safe when using online taxi services, Safety from criminal acts when using online taxi services and Clean seat conditions. There is also (Addin et al., 2018) with the object of the Depok station Commuter Train using *Quantitative* methods and obtained nine indicators/attributes that are considered the most important factors of *Service Quality*, such as Ease of reaching the station, Availability of information, Ease of obtaining clear information, Ability of officers to carry out their work, Availability of insurance, Ability of officers to provide information, Willingness of employees to serve, Cleanliness of the station, Attribute availability of tools for travel route information and train position.

Customer satisfaction research has also been conducted on educational services and courses, such as universities and courses, such as in (Shodikin et al., 2021) with the object of the

Yogyakarta Madani Tarbiyah College of Sciences using the *Confirmatory Factor Analysis* (CFA) method, which then obtained the most dominant indicator is *Tangible* with complete lecture facilities and quality assurance, then *Reliability* with an easy KRS/KHS filling and issuing process, *Assurance* with clarity of information about administrative and academic service procedures, then supported by good *Responsiveness* with the readiness of officers in providing administrative and academic services, as well as employees always helping when there are difficulties when requesting administrative and academic services.

Telecommunication services are currently very easy to find in every home, such as WiFi, telephones, starter packs, and others. In research (Aditiya et al., 2022) with the object of Telekomunikasi Indonesia (Telkom) using *Quantitative* methods (questionnaires and direct interviews) obtained Indicators that affect customer satisfaction are in the dimensions of *Product Quality* and *Cost and Convenience* with their respective indicators of product durability provided to customers and the ease of payment for the products or services provided.

In addition, there is also research on health services (W. K. Sari et al., 2023) with the object of the East Semarang Pharmacy with the *Confirmatory Factor Analysis* (CFA) method with the dominant indicators of *Empathy* and *Assurance*. Indicators of *Empathy* such as sincere attention from pharmacy staff, services regardless of socio-economic status, pharmacy staff who understand patient needs, consumers who feel comfortable when waiting for medication, and the performance of pharmacy staff who do not let patients wait long. Indicators of *Assurance* such as the quality of the drugs provided are of high quality and in accordance with the original, the knowledge of pharmacy officers about drugs. The accuracy of pharmacy officers in reading doctor's prescriptions, and the clarity of information conveyed by officers so that it is easily understood by patients.

The explanation of the journal above shows that many researchers have conducted research related to customer satisfaction of logistics service companies in each field and produced various indicators with different methods. The above research also proves that the CFA method can be used in identifying and validating the main factors and underlying indicators and the AHP method can be used as a weight measurement that can determine the priority or ranking of the main factors and indicators.

Table 2. 1 Literature Review

Author	Services Object						Method						Output			Customer Satisfaction Factors
	Education & Course	Financial	Transportation	Logistic	Telecommunication	Heatlh	CFA	AHP	IPA	CSI	SERVQUAL	Quantitative	Factor Identification	Quality Level	Quality Influence	
(Attamimi & Maryani, 2019)		✓							✓	✓				✓		▪ Reliability ▪ Responsivness ▪ Assurance
(E. P. Sari et al., 2014)			✓						✓					✓		▪ Reliability ▪ Responsivness ▪ Empathy ▪ Price
(Shodikin et al., 2021)	✓						✓						✓			▪ Tangible ▪ Reliability ▪ Assurance ▪ Responsivness ▪ Empathy
(Matulatuwa, 2017)				✓							✓		✓			▪ Reliability ▪ Responsivness ▪ Tangible
(Aditiya et al., 2022)					✓							✓	✓			▪ Product Quality ▪ Cost and Convenience
(Fanani et al., 2020)				✓				✓		✓				✓		▪ Information Quality ▪ Ordering Release Quantities

									▪ Order Accuracy ▪ Physical Distribution
(Astuti & Fatma, 2017)		✓			✓			✓	▪ Reliability ▪ Cost ▪ Convenience and Service
(W. K. Sari et al., 2023)				✓	✓				✓ ▪ Emphaty ▪ Assurance
(Wijaya & Wismantoro, 2017)	✓				✓				✓ ▪ Product Quality ▪ Price Perception
(Rosa & Yunita, 2014)		✓				✓		✓	▪ Tangible ▪ Assurance
(Lestari et al., 2018)		✓			✓			✓	▪ Comfort ▪ Tangible ▪ Personnel ▪ Reliability
(Addin et al., 2018)		✓					✓	✓	▪ Services Quality ▪ Price ▪ Satisfaction ▪ Loyal
Rahim (2024)	Logistics service companies			✓	✓			✓	▪ ▪

2.2 Deductive Study

2.2.1 Customer Satisfaction

According to (Lovelock & Wirtz, 2011), satisfaction is an attitude that is decided based on the experience obtained by the customer. According to Tjiptono (2012) (Matulatuwa, 2017), customer satisfaction is a situation shown by a customer when they realize that their needs and desires are as expected and are well met. According to Kotler & Keller (2007) in (Matulatuwa, 2017), customer satisfaction is an expression of joy or dissatisfaction felt by a customer after comparing the performance or results of a product with the expectations he has of the product. According to (Yani & Kuswardani, 2021), customer satisfaction is highly dependent on customer perceptions and expectations. (Ristianah & Ma'sum, 2022) added, the following factors can affect customer perceptions and expectations, among others:

1) Needs and desires are met when trying to make transactions with logistics. If at that time the customer's needs and desires feel fulfilled, then the customer's expectations or expectations of the company will increase and vice versa.
2) Past/previous personal experience in using the services of the service company and its competitors.
3) Experience from friends who tell about the quality of service felt by these customers.
4) Communication is done through advertising and marketing that can influence customers.

In addition, the book (Indrasari, 2017) said that to determine the level of customer satisfaction, companies must pay attention to several general factors that can attract customer satisfaction as below:

1) Product Quality: customers will feel satisfied if the results of their evaluation show that the services they use are of high quality or have certain advantages.
2) Service Quality: especially for the service industry, customers will feel satisfied if they get good service or as expected.
3) Emotional: customers will feel safe and gain confidence if they use certain services that have higher social value (trust).
4) Price: services that have the same quality but set relatively low prices will provide more value to their customers.
5) Cost: customers do not have to pay extra and do not spend time on services they have already used.

2.2.2 Confirmatory Factor Analysis (CFA)

According to (Hanifah & Rachmawati, 2023), *Confirmatory Factor Analysis* (CFA) is a technique to confirm or validate whether the indicators used are in accordance with the variables. According to (Efendi & Purnomo, 2012), *Confirmatory Factor Analysis* (CFA) aims to summarize or reduce the overall observed variables into several new variables or factors, but the new variables or factors formed are still able to represent the main variables used if the factors formed have been determined in advance. According to (Safitri, 2021), *Confirmatory Factor Analysis* (CFA) is one of the many factor analyses to test or prove the truth of the relationship between each factor and the main variable that cannot be measured directly.

Confirmatory Factor Analysis (CFA) is one of the validity tests of the *Structural Equation Modeling* (SEM) testing method, this test is intended to determine how well the variables measured in the study represent a smaller number of constructs or indicators (Hair et al., 2010). The loading factor value of each evaluated indicator is determined during the validity test in CFA. Indicators are considered valid if they satisfy the minimum loading factor value. The model is considered valid if each construct indicator has a standardized loading factor value > 0.5 (Hair et al., 2010).

2.2.3 Analytical Hierarchy Process (AHP)

AHP was initially developed by Thomas L. Saaty with the primary objective of assisting in the solution of problems and the formulation of decisions in a multicriteria environment (Saputra & Nugraha, 2020). By establishing a hierarchy of criteria, interested parties, and results, as well as by incorporating a variety of factors to establish weights or priorities, the AHP method can assist in the resolution of intricate problems (Sundana & Sari, 2000). AHP is the most frequently employed problem-solving method (Syafirullah, 2014). Here are the reasons why AHP is used more often:

1) AHP is a relatively simple method and easy to learn. It does not require in-depth mathematical knowledge to be used.
2) AHP can be used to analyze complex and multicriteria problems. This method can be used to compare various alternatives based on several different criteria.
3) AHP produces consistent and reliable results. This method uses powerful mathematical techniques to produce accurate results.

The following are the stages that must be carried out in the AHP method, among others

1) Building a Hierarchy

Develop a hierarchical structure of the problem and develop a linkage model starting with the main objective, criteria, and alternatives as shown in Figure 2.1 below:

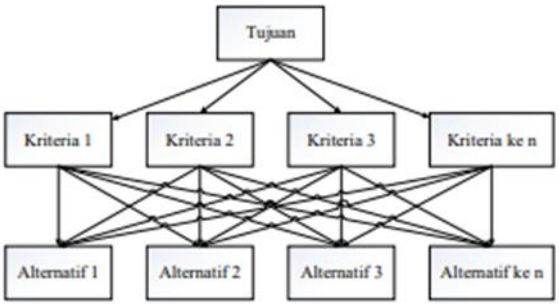


Figure 2. 1 Hierarchy Structure Level

2) Pairwise Comparison

Defining pairwise comparisons according to the elements to be compared using a questionnaire or conducting individual comparison assessments with considerations that have been determined by *expertise* and measured on a rating scale from 1 to 9 based on their importance. For more details about the pairwise comparison rating scale table, please see the following table:

Table 2. 2 Rating Scale

Intensity of Interest	**Description**
1	Both elements are equally important
3	One element is slightly more important than the other
5	One element is more important than another
7	One element is more important than the other
9	One element is absolutely essential to the other
2,4,6,8	Values between two adjacent consideration values
Reversal	If activity i gets one number compared to activity j, then j has the opposite value compared to i.

Next, create a pairwise comparison matrix that describes the relative contribution or influence of each element on the objectives or criteria that are at the level above it.

3) Calculating the total weight and priority weight/average of each pairwise comparison matrix which is the weight of each element for prioritizing elements at the lowest hierarchical level to achieve the goal. The calculation of the total weight is done by summing the columns of the matrix concerned and dividing each of the criteria by the number of columns of the matrix concerned, then summing the matrix rows of each criterion to get the total weight value. Then, the way to calculate the priority weight (eigenvector) is by summing the total weight and dividing each total weight by the number of priority weights earlier.
4) Checking the consistency of the hierarchy:
    a) Calculating matrix multiplication to get eigenvalue.
    b) Calculate the eigenvalue by dividing the weighted priority (eigenvector) by the result of each row of matrix multiplication.
    c) Calculate λmax by dividing the number of eigenvalues by the total number of weights.
    d) Calculating the Consistency Index.

$$CI = \frac{\lambda max}{n-1} \quad (2.1)$$

    e) Random Index (RIn) is the average value of CI chosen based on many items (N).

Table 2. 3 Index Random Guidelines

N	**1,2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
IR	0	0,58	0,90	1,12	1,24	1,32	1,41	1,45	1,49

    f) Calculating the Consistency Ratio.

$$CR = \frac{CI}{RI_n} \quad (2.2)$$

    If CR = 0, then the hierarchy is consistent.
    If CR < 0.1, then the hierarchy is fairly consistent.
    If CR > 0.1, then the hierarchy is highly inconsistent.
5) Making decisions based on the highest weight to determine priorities in order to get the best solution.

:

CHAPTER III
RESEARCH METHOD

3.1 Research Object

The object of this research is a company engaged in services such as the company PT Pos Indonesia, PT Tiki Jalur Nugraha Eka Kurir (JNE), PT Global Jet Express (J&T Express), PT Lion Express (Lion Parcel), and others. This research will identify influential factors and indicators to are the key to customer satisfaction in logistics service companies. This research will identify factors and indicators that affect customer satisfaction in logistics service companies by referring to existing literature and previous research.

3.2 Data Collection

Data collection in this study has two stages of the process, namely:

1) Factor Analysis

   At this stage, a Likert scale questionnaire will be made based on the factors and indicators that have been identified to be distributed to respondents. Then, the results of the questionnaire will be validated and tested using the *Confirmatory Factor Analysis* (CFA) method with the help of SPSS software to identify and evaluate the relationship between factors and underlying indicators based on the *loading factor* value to determine the model that best fits the existing data.

2) Factor Prioritization

   The next stage is to determine the priority of factors and indicators based on the largest weight value using the *Analytical Hierarchy Process* (AHP) method assisted by Excel software. In this method, the pairwise comparison is one of the processes that is very decisive to get the weight value on factors and indicators. This process requires an *expert* (customer or employee) who has more than two years of experience.

3.3 Flowchart

The following are some of the steps that will be carried out in this research in the form of a flow chart:

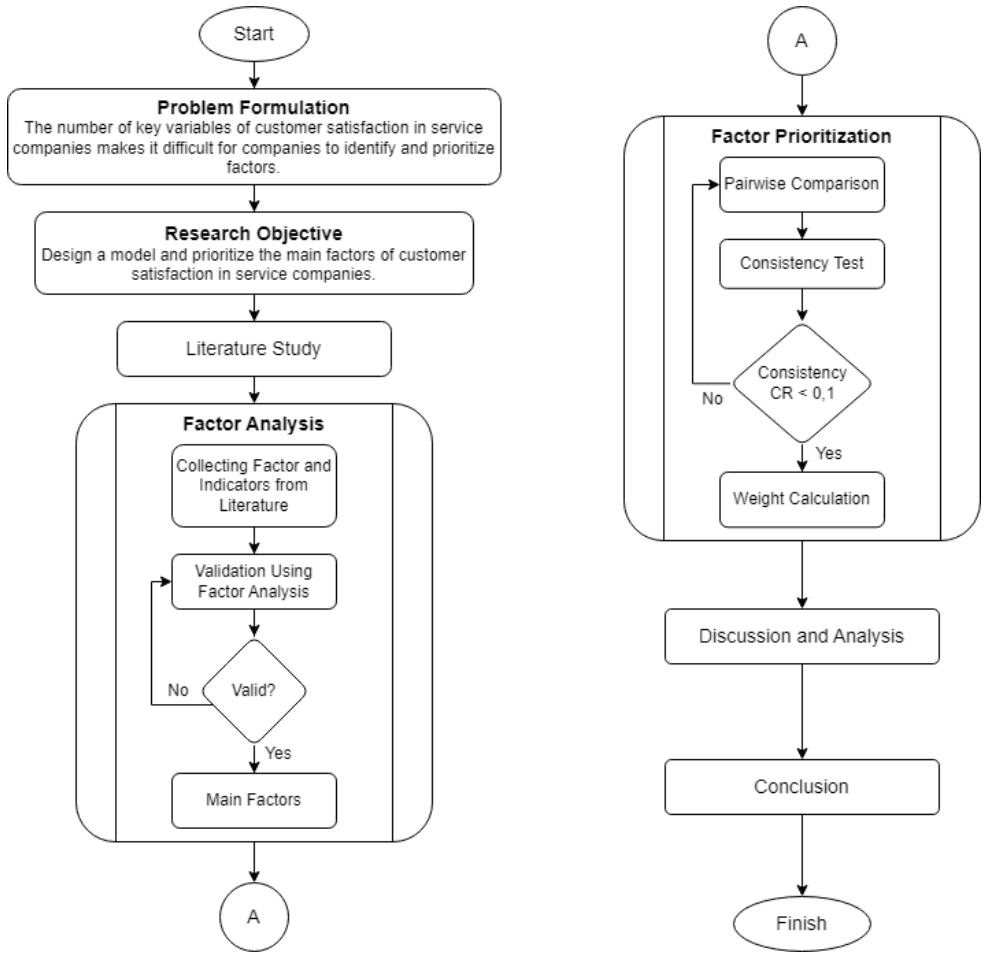


Figure 3. 1 Research Flow

1) Problem Formulation

   Problem formulation is the beginning of this research. Before determining the problem formulation, problem identification must be carried out. Problem identification is carried out by observing journals and previous research to find problems that arise related to customer satisfaction in logistics service companies, then after that, problem formulation can be produced.

2) Research Objective

   After formulating the problem, the next step is to determine the research objectives to be able to answer and provide solutions or recommendations related to the problem.

3) Literature Study

Literature studies are conducted to find theoretical foundations and supporting data in research. Data used as references include journals and previous research on the topic of customer satisfaction or similar methods. Literature studies were also conducted to determine research methods, identify factors and indicators, and design questionnaires and research backgrounds.

4) Factor Analysis

   Factor Analysis began by identifying the required factors and indicators from the collected literature. After that, creating an online form based on the results of the factors and indicators that have been identified. Last, is the *Confirmatory Factor Analysis* (CFA) method to test and validate the factors and indicators to determine the main factors.

5) Factor Prioritization

   Factor prioritization is carried out using the *Analytical Hierarchy Process* (AHP) method to get the priority of factors to be determined from multiple pairs. Rating for each factor and indicator will be filled in by experts selected from online form respondents to get the final result of the calculation of the largest weight.

6) Discussion and Analysis

   At this stage, in-depth analysis and discussion of the findings and interpretation of the results were carried out to present the findings based on the results of the expertise.

7) Conclusion

   In closing, the problem formulation will be answered and recommendations for the company as well as for future research will be provided in this study.

CHAPTER IV
DATA COLLECTION AND PROCESSING

4.1 Factor Identification

Before conducting the analysis process, the first step is to collect various indicators and factors that affect customer satisfaction in logistics service companies such as PT Pos Indonesia, PT Tiki Jalur Nugraha Eka Kurir (JNE), PT Global Jet Express (J&T Express), PT Lion Express (Lion Parcel) and others from various previous studies. Below are indicators that have been identified based on satisfaction factors such as Tangible, Reliability, Empathy, Assurance, Responsiveness, Information Quality, Price Cost & Convenience.

Table 4. 1 Factor and Indicator

No	Factor	Indicator	Code
1.	Tangible	Strategic location and easy to reach	X1
		Comfortable and adequate waiting room	X2
		Cleanliness and tidiness of the waiting room	X3
		Employee appearance	X4
2.	Reability	Accuracy and expertise of employees in service	X5
		The ability of employees to provide education related to the services offered	X6
		Employees provide optimal service time according to customer needs	X7
3.	Empathy	Employee sensitivity and care	X8
		Employees communicate well	X9
		Understand customer needs and wants	X10
4.	Assurance	Clarity of service procedures	X11
		Customer safety	X12
		Employee knowledge of the services offered	X13
5.	Responsiveness	Responsiveness in dealing with complaints	X14

		Clear and appropriate queues	X15
		Clear information delivery and easy to understand by customers	X16
6.	Information Quality	Appropriateness of information	X17
7.	Price	Price accordance with the servic	X18
8.	Cost and Convenience	Ease of payment	X19
1.	Tangible	Equipment and tools used (technology)	X20

(Addin et al., 2018; Aditiya et al., 2022; Astuti & Fatma, 2017; Attamimi & Maryani, 2019; Fanani et al., 2020; Matulatuwa, 2017; Rosa & Yunita, 2014; E. P. Sari et al., 2014; W. K. Sari et al., 2023; Shodikin et al., 2021)

4.2 Data Collection

Data collection in this study will use questionnaire data to measure the effect of each indicator of customer satisfaction using a Likert scale with a value range of 1 which means very little effect to 5 which means very much effect. The core of this questionnaire contains 20 indicator questions that have been identified and added with demographic questions such as Gender, Age, Last Education, Occupation, and Income/Pocket Money.

The questionnaire data that has been obtained is 52 respondents. Before that, a Reliability Test will be carried out to measure the feasibility of the questionnaire in data collection. Through the Cronbach Alpha test, the draft questionnaire is declared feasible to use and can proceed to the analysis test by meeting several parameters such as valid results of 100% and the Cronbach Alpha value for the entire indicator and per item must be > 0.6 to be able to ensure the questionnaire is feasible and reliable.

Table 4. 2 Reliability Test

Case Processing Summary

		N	%
Cases	Valid	52	100,0
	Excluded[a]	0	0,0
	Total	52	100,0

Reliability Statistics

Cronbach's Alpha	N of Items
0,823	20

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
X1	76,83	71,950	0,418	0,815
X2	76,21	73,386	0,516	0,809
X3	76,08	76,033	0,424	0,814
X4	76,87	74,276	0,332	0,821
X5	76,00	75,725	0,430	0,814
X6	75,69	77,707	0,335	0,818
X7	77,15	66,603	0,668	0,797
X8	76,52	73,353	0,449	0,812
X9	76,29	73,307	0,535	0,808
X10	76,46	71,116	0,657	0,801
X11	75,79	78,680	0,356	0,818
X12	75,38	82,320	0,047	0,826
X13	76,10	77,226	0,371	0,817
X14	76,19	73,962	0,514	0,810
X15	76,06	78,957	0,235	0,822
X16	76,17	75,950	0,428	0,814
X17	75,94	78,095	0,317	0,819
X18	76,67	73,479	0,398	0,816
X19	76,19	78,002	0,243	0,823
X20	76,15	80,094	0,115	0,829

This can be seen from Table 4.2. above that the data from the total valid N results of 52 respondents has a percentage of 100%, then the Cronbach Alpha value has a value of 0.823 > 0.6 for the entire indicator and the value of each indicator is> 0.6 which can be seen from Cronbach's Alpha If Item Deleted, so it can be said that this data is suitable for the Analysis Test.

4.3 Factor Analysis

The data used in the Analysis Test comes from 52 respondents as actors/users with various attributes of demographic factors. It was found that the Gender criterion was dominated by Men at 69.23% while Women were 30.77%. In the Age criteria, there are 3 age categories, namely 15-25 years at (48.08%), 26-40 years at (38.45%) and 41-55 years at (13.46%). In the Last Education criteria, SMA/SMK is obtained (36.54%), Starta 1 is (48.08%) and Starta 2 is

(15.38%). On the Employment criteria, it is dominated by Private Employees/ Self-employed at 32.69%, Students and PNS/TNI/POLRI/BUMN at 23.08%, Traders at 7.69%, Housewives at 3.85% and Others at 9.62%. Last, in the Income/Pocket Money criteria, the largest number is found in the < Rp 1.500.000 category (30.77%), Rp 1.500.001 - Rp 3.000.000 (26.92%), Rp 3.000.001 - Rp 5.000.000 (25%) and > 5.000.001 (17.31%).

Table 4. 3 Demographic Data

Criteria	Category	Percentage
Gender	Male	69,23%
	Female	30,77%
Age	15 - 25 Years	48,08%
	26 - 40 Years	38,46%
	41 - 55 Years	13,46%
Last Education	Senior High School	36,54%
	Bachelor Degree (S1)	48,08%
	Master Degree (S2)	15,38%
Type of Work	Students	23,08%
	PNS/TNI/POLRI/BUMN	23,08%
	Private Employee/Self-Employed	32,69%
	Merchants	7,69%
	Housewife	3,85%
	Others	9,62%
Income/Allowance	< Rp 1.500.000	30,77%
	Rp 1.500.001 - Rp 3.000.000	26,92%
	Rp 3.000.001 - Rp 5.000.000	25,00%
	> Rp 5.000.001	17,31%

After that, In conducting the Confirmatory Factor Analysis test, researchers will use SPSS software by entering the data from the Likert scale questionnaire into SPSS. After that, select the Analyze > Dimension Reduction > Factor menu, then the Factor Analysis dialog box will appear. Then, move all indicator items into the variable table. Select the Descriptives menu and put a checkmark on Initial Solution, Anti-Image, and KMO. On the Rotation menu, select Varimax and check the Rotated Solution. On the Scores menu, check Save as a variable and stay on Regression. On the Options menu, put a checkmark on Suppress Small Coefficients, then fill it in with a minimum value of 0.50 to show that the greater the loading factor value of the minimum limit, the indicator has a significant contribution to the measured factor (Hair et al., 2010). Then choose Ok.

There are several parameters to see whether the validation results on the indicator can be understood or not based on the expected value provisions. First, the Kaiser-Meyer-Oikin (KMO) and Bartlett's Test output tables are useful for knowing how the value of the data sample and the overall indicator, if the value of KMO > 0.5 then the data sample is said to be sufficient, and if the value of Bartlett's Test is < 0.05 then the indicator is said to be correlated. Second, the Anti-Image Correlation table is useful for measuring the correlation between indicators to identify indicators that are not suitable for inclusion in the model, if the Measures of Sampling Adequacy (MSA) value > 0.5 then the indicator is said to be suitable for inclusion in the factor. Third, the Communalities table is useful for showing how well indicators can be explained by factors, if the value of Communalities > 0.5 then the indicator has a significant contribution to the identified factor. Last, the Rotated Component Matrix table shows the rotated loading factor value to make it easier to interpret the indicator, if the loading factor shows a value > 0.5 then the indicator is relevant and significantly loads the new factor.

Table 4. 4 KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0,553
Bartlett's Test of Sphericity	Approx. Chi-Square	393,077
	df	190
	Sig.	0,000

Based on Table 4.4. the value of KMO is obtained at 0.533 so that the data sample of 52 respondents is declared sufficient and the value of Bartlett's Test is obtained at 0.000, so all indicators are correlated and can be continued to the next parameter.

Table 4. 5 Anti-image Correlation

Anti-image Matrices						
Anti-image Correlation	Indicator	λ	Status	Indicator	λ	Status
	X1	.701[a]	Fulfilled	X11	.569[a]	Fulfilled
	X2	.457[a]	Eliminated	X12	.177[a]	Eliminated
	X3	.482[a]	Eliminated	X13	.606[a]	Fulfilled
	X4	.407[a]	Eliminated	X14	.608[a]	Fulfilled
	X5	.650[a]	Fulfilled	X15	.478[a]	Eliminated
	X6	.516[a]	Fulfilled	X16	.598[a]	Fulfilled
	X7	.713[a]	Fulfilled	X17	.557[a]	Fulfilled

	X8	.689[a]	Fulfilled	X18	.723[a]	Fulfilled
	X9	.804[a]	Fulfilled	X19	.353[a]	Eliminated
	X10	.559[a]	Fulfilled	X20	.230[a]	Eliminated

Based on Table 4.5. indicators X1, X5, X6, X7, X8, X9, X10, X11, X13, X14, X16, X17 and X18 have MSA values> 0.5, so these indicators are said to be suitable for inclusion in factors while indicators X2, X3, X4, X12, X15, X19, and X20 have MSA values <0.5, the seven indicators will be eliminated and repetition will be carried out.

Table 4. 6 Anti-image Correlation Iteration (1)

Anti-image Matrices (1)			
Anti-image Correlation	Indicator	λ	Status
	X1	.774[a]	Fulfilled
	X5	.677[a]	Fulfilled
	X6	.654[a]	Fulfilled
	X7	.771[a]	Fulfilled
	X8	.706[a]	Fulfilled
	X9	.769[a]	Fulfilled
	X10	.834[a]	Fulfilled
	X11	.758[a]	Fulfilled
	X13	.692[a]	Fulfilled
	X14	.827[a]	Fulfilled
	X16	.773[a]	Fulfilled
	X17	.734[a]	Fulfilled
	X18	.831[a]	Fulfilled

Based on Table 4.6. After Iteration (1), the MSA value for all indicators> 0.5 is obtained, so the indicator is said to be suitable for inclusion in the factor and can proceed to the next parameter.

Table 4. 7 Communalities

Communalities			
Indicator	Initial	Extraction	Status
X1	1,000	0,539	Fulfilled
X5	1,000	0,754	Fulfilled
X6	1,000	0,689	Fulfilled

X7	1,000	0,706	Fulfilled
X8	1,000	0,503	Fulfilled
X9	1,000	0,686	Fulfilled
X10	1,000	0,636	Fulfilled
X11	1,000	0,505	Fulfilled
X13	1,000	0,509	Fulfilled
X14	1,000	0,486	Eliminated
X16	1,000	0,438	Eliminated
X17	1,000	0,404	Eliminated
X18	1,000	0,531	Fulfilled

Based on Table 4.7. indicators X1, X5, X6, X7, X8, X9, X10, X11, X13, X14, and X18 have a value> 0.5, so these indicators have a significant contribution to the identified factors, while indicators from X14, X16, and X17 have a value < 0.5, so these indicators cannot be explained by factors (eliminated) and must be repeated.

Table 4. 8 Communalities Iteration (1)

Communalities (1)			
Indicator	Initial	Extraction	Status
X1	1,000	0,566	Fulfilled
X5	1,000	0,766	Fulfilled
X6	1,000	0,707	Fulfilled
X7	1,000	0,687	Fulfilled
X8	1,000	0,526	Fulfilled
X9	1,000	0,672	Fulfilled
X10	1,000	0,716	Fulfilled
X11	1,000	0,572	Fulfilled
X13	1,000	0,652	Fulfilled
X18	1,000	0,606	Fulfilled

Based on Table 4.8. After Iteration (1), the value for all indicators > 0.5 is obtained, so all of these indicators have a significant contribution to the identified factors and can be continued to the next stage.

Table 4. 9 Rotated Component Matrix

Rotated Component Matrix[a]			
Indicator	Component		
	1	2	3

X1	0,582		
X5	0,782		
X6	0,839		
X7		0,747	
X8		0,713	
X9	0,758		
X10		0,659	
X11			0,677
X13			0,728
X18		0,763	

Based on Table 4.9 the value of all indicators > 0.5, all indicators are relevant and significantly load the new factor. The results of Confirmatory Factor Analysis contain three new factors that create groups with 10 underlying indicators. Factor 1 is X1, X5, X6 and X9, then Factor 2 is X7, X8, X10 and X18, and Factor 3 is X11 and X13.

Factor 1 is named Effectiveness and Performance (E) because the strategic and easy-to-reach location ensures services can be accessed easily by customers, this can increase effectiveness in reaching the target market. The accuracy and expertise of employees in service ensure that tasks and services are carried out correctly and on time, thus improving performance by reducing errors. The ability of employees to provide education related to the services offered helps customers understand and utilize the services optimally, increasing value and satisfaction. Good communication from employees strengthens relationships with customers, ensuring needs and complaints are addressed quickly and appropriately, which is an indicator of good performance. The combination of these indicators shows a focus on achieving effective results and optimal service performance.

Factor 2 is named Service Quality (Q) because it directly reflects an important dimension of the quality of service received by customers. Employees who provide optimal service time according to customer needs to ensure that services are delivered efficiently and unhurriedly. Employee sensitivity and care demonstrate concern and empathy towards customers, which builds positive relationships and trust. Understanding customers' needs and wants allows employees to provide more personalized and relevant services, increasing the value perceived by customers. In addition, appropriate prices for services ensure that customers feel they are getting value for money, which is an important element of perceived quality. The combination of these indicators emphasizes the importance of providing services that are not only efficient and timely, but also responsive, empathetic, and valuable.

Factor 3 is named Service Competence (C) because it reflects important aspects of competence in service delivery. Clarity of service procedures ensures that customers understand each step to be taken, reducing confusion and increasing efficiency in receiving services. This indicates that services are provided with clear and consistent standards, reflecting the organization's competence in managing the service process. Employees' knowledge of the services offered ensures that they can provide customers with accurate and relevant information, answer questions appropriately, and provide useful advice. This knowledge reflects employees' expertise and ability to perform their duties well. With clarity of procedures and in-depth knowledge, the services provided become more reliable and professional. Here are the details of the results obtained:

Table 4. 10 Factor Analysis Result

Code	New Code	New Factor	Indicator
X1	E1	Effectiveness and Performance (E)	Strategic location and easy to reach
X5	E2		Accuracy and expertise of employees in service
X6	E3		The ability of employees to provide education related to the services offered
X9	E4		Employees communicate well
X7	Q1	Service Quality (Q)	Employees provide optimal service time according to customer needs
X8	Q2		Employee sensitivity and care
X10	Q3		Understand customer needs and wants
X18	Q4		Price accordance with the service
X11	C1	Service Competency (C)	Clarity of service procedures
X13	C2		Employee knowledge of the services offered

4.4 Factor Prioritization

4.4.1 Hierarchy Structure

In the Analytical Hierarchy Process (AHP) method, the first step is to design a suitable hierarchical structure. Previously, factors and indicators that affect customer satisfaction were identified. These results are converted into a hierarchical form starting from the top/main goal, namely Factor Prioritization, then the criterion level, namely the factors that have been identified from the CFA analysis results, and the sub-criteria level, namely 10 indicators from E1 to C2.

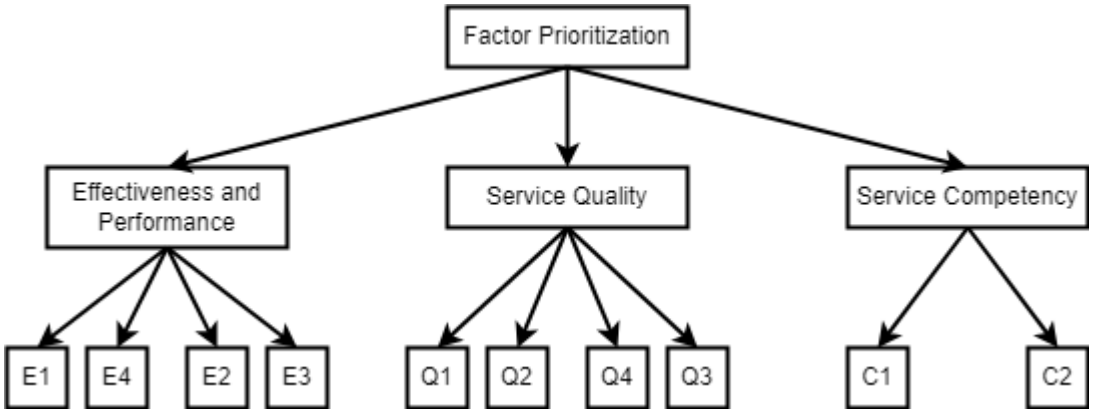


Figure 4. 1 Hierarchy Structure Factor Prioritization

4.4.2 Pairwise Comparison

The next step is to conduct pairwise comparisons of all entities at each level of the hierarchy. This pairwise comparison will be assisted by experts who have experience related to logistics service companies. The first expert is a frontline at a logistics service company that serves customers directly by meeting face to face, the second expert is an employee and customer of a logistics service company, and the third expert is a customer of a logistics service company.

Table 4. 11 Demographic Expertise Data

	Respondent 1	**Respondent 2**	**Respondent 3**
Gender	Man	Woman	Woman
Age	55	36	55
Work	State-Owned Employees	State-Owned Employees	Civil Servant
Last Education	Senior High School	Senior High School	Senior High School

The filling of pairwise comparisons will be carried out using Focus Group Discussion (FGD). Pairwise comparison is a subjective stage because it involves the assessment and preferences of individuals or groups in determining the level of importance or superiority of an element compared to other elements. Pairwise comparisons will be conducted in a tabular format, where each element is compared to all other elements without exception.

Table 4. 12 Pairwise Comparison Main Factor

Main Factor																				
Code	**Factor**	**Rating Scale**																	**Factor**	**Code**
E	Efectiveness and Performance	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Service Quality	Q
E	Efectiveness and Performance	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Service Competency	C
Q	Service Quality	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Service Competency	C

Table 4. 13 Pairwise Comparison Effectiveness and Performance

Effectiveness and Performance																				
Code	**Indicator**	**Rating Scale**																	**Indicator**	**Code**
E1	Strategic location and easy to reach	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Accuracy and expertise of employees in service	E2
		9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	The ability of employees to provide education related to the services offered	E3
		9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Employees communicate well	E4
E2	Accuracy and expertise of employees in service	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	The ability of employees to provide education related to the services offered	E3
		9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Employees communicate well	E4
E3	The ability of employees to provide education related to the services offered	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Employees communicate well	E4

Table 4. 14 Pairwise Comparison Service Quality

Service Quality																			
Code	**Indicator**	**Rating Scale**																**Indicator**	**Code**
Q1	Employees provide optimal service time according to customer needs	9	8	7	6	5	4	3	2	1	2	**3**	4	5	6	7	8	9	Employee sensitivity and care	Q2
		9	8	7	6	5	4	3	2	1	2	3	**4**	5	6	7	8	9	Understanding customer needs and wants	Q3
		9	8	7	6	5	**4**	3	2	1	2	3	4	5	6	7	8	9	Price accordance with the service	Q4
Q2	Employee sensitivity and care	9	8	7	6	5	4	3	**2**	1	2	3	4	5	6	7	8	9	Understanding customer needs and wants	Q3
		9	8	7	6	**5**	4	3	2	1	2	3	4	5	6	7	8	9	Price accordance with the service	Q4
Q3	Understanding customer needs and wants	9	8	7	6	**5**	4	3	2	1	2	3	4	5	6	7	8	9	Price accordance with the service	Q4

Table 4. 15 Pairwise Comparison Service Competency

Service Competency																			
Code	**Indicator**	**Rating Scale**																**Indicator**	**Code**
C1	Clarity of service procedures	9	8	7	6	5	4	3	2	1	**2**	3	4	5	6	7	8	9	Employee knowledge about the services offered	C2

Based on Table 4.12. starting from the comparison of the main factors of logistic service company customer satisfaction, the FGD results agree that the Effectiveness and Performance factor is one more important than the Service Quality factor with a score of (5) and one slightly more important than the Service Competency factor with a score of (3). Then, the Service Quality factor is not one bit more important than the Service Competency factor with a score of (3).

Based on Table 4.13. pairwise comparison between indicators of the Effectiveness and Performance factor, starting from E1 one is slightly more important than E2 with a score of (3), not more important than E3 with a score of (4) and slightly more important than E4 with a score of (2). Then, E2 is not one bit more important than E3 with a score of (3), not one bit more important than E4 with a score of (5) and E3 is not one bit more important than E4 with a score of (2).

Based on Table 4.14. pairwise comparison between indicators of the Service Quality factor, starting from Q1 is not one slightly more important than Q2 with a score of (3) and not more important than Q3 with a score of (4), but more important than Q4 with a score of (4). Then, Q2 is slightly more important than Q3 with a score of (2), one less than Q4 with a score of (5) and Q3 is one more important than Q4 with a score of (5).

Based on Table 4.15 pairwise comparison between indicators of the Service Competency factor, the indicator Clarity of service procedures (C1) is slightly more important than the indicator Knowledge of employees about the services offered (C2) with a score of (2).

4.4.3 Consistency Test

The consistency test is conducted to determine whether the level of importance between elements in pairwise comparisons is consistent or not. This stage begins by first converting the pairwise comparison into a matrix. Where the more important element is written according to its importance value, while the importance value of the opposite element being compared is written inversely. From filling in the matrix table, it is necessary to find the weight or value of the Consistency Ratio (CR) first to find out whether the pairwise comparison is consistent or not. Each Criterion or Sub-Criteria must have a CR value <0.1 to be declared consistent, if more then it is declared inconsistent, and pairwise comparisons must be repeated or adjusted.

Table 4. 16 Consistency Test Main Factor

Main Factor														
Factor	**E**	**Q**	**C**	**E**	**Q**	**C**	**Total Weight Matrix**	**Eigen Vector**	**Multiplication Matrix**	**Eigen Value**	**λ max**	**CI**	**IR**	**CR**
E	1	5	3	0,6522	0,5556	0,6923	1,9000	0,6333	1,9456	3,0720	3,0387	0,0194	0,58	0,0334
Q	0,2	1	0,333	0,1304	0,1111	0,0769	0,3185	0,1062	0,3197	3,0112				
C	0,333	3	1	0,2174	0,3333	0,2308	0,7815	0,2605	0,7901	3,0330				
Total	1,533	9	4,333	1	1	1	3	1	3,0554	9,1161				

Table 4. 17 Consistency Test Effectiveness and Performance

Effectiveness and Performance															
Indicator	**E1**	**E2**	**E3**	**E4**	**E1**	**E2**	**E3**	**E4**	**Total Weight Matrix**	**Eigen Vector**	**Multiplication Matrix**	**Eigen Value**	**λ max**	**CI**	**IR**	**CR**
E1	1	3	0,25	0,5	0,1364	0,25	0,0698	0,2273	0,683	0,1709	0,6995	4,0943	4,2561	0,0854	0,9	0,0949
E2	0,333	1	0,333	0,2	0,0455	0,0833	0,0930	0,0909	0,313	0,0782	0,3287	4,2046				
E3	4	3	1	0,5	0,5455	0,25	0,2791	0,2273	1,302	0,3254	1,4562	4,4743				
E4	2	5	2	1	0,2727	0,4167	0,5581	0,4545	1,702	0,4255	1,8090	4,2513				
Total	7,333	12	3,583	2,2	1	1	1	1	4	1	4,2934	17,0245				

Table 4. 18 Consistency Test Service Quality

Service Quality															
Indicator	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Total Weight Matrix**	**Eigen Vector**	**Multiplication Matrix**	**Eigen Value**	**ʎ max**	**CI**	**IR**	**CR**
Q1	1	0,333	0,25	4	0,1212	0,1639	0,0725	0,2667	0,6243	0,1561	0,6414	4,1095	4,2325	0,0775	0,9	0,0861
Q2	3	1	2	5	0,3636	0,4918	0,5797	0,3333	1,7685	0,4421	1,9039	4,3063				
Q3	4	0,5	1	5	0,4848	0,2459	0,2899	0,3333	1,3539	0,3385	1,5004	4,4328				
Q4	0,25	0,2	0,2	1	0,0303	0,0984	0,0580	0,0667	0,2533	0,0633	0,2585	4,0815				
Total	8,25	2,033	3,45	15	1	1	1	1	4	1	4,3042	16,9302				

Table 4. 19 Consistency Test Service Competency

Service Competency												
Indicator	**C1**	**C2**	**C1**	**C2**	**Total Weight Matrix**	**Eigen Vector**	**Multiplication Matrix**	**Eigen Value**	**ʎ max**	**CI**	**IR**	**CR**
C1	1	0,5	0,3333	0,3333	0,6667	0,3333	0,6667	2	2	0	0	0
C2	2	1	0,6667	0,6667	1,3333	0,6667	1,3333	2				
Total	3	1,5	1	1	2	1	2	4				

Based on the results of the Consistency Test table above, it shows that the pairwise comparison matrix for the main factor has a Consistency Ratio (CR) value is 0.0334 < 0.1 so it is declared consistent. For the Effectiveness and Performance comparison matrix, it shows that the CR value is 0.0949 < 0.1, also declared consistent. The Service Quality matrix is also declared consistent with a CR value of 0.0861. For the Service Competency matrix, because it only consists of two elements, it can be confirmed to be consistent without having to calculate the CR value. In the calculation of the factor matrix, the Consistency Ratio (CR) is ignored when the number of elements (N) is only 2. This is because the Random Index (RI) value for N = 2 is 0, and division by 0 in the CR calculation results in an infinite value. Therefore, the assumption of consistency of comparison of two elements is considered adequate.

4.4.4 Priority Weight Score

After ensuring that all comparisons are consistent, weighting can be done. Through previous calculations, weights are defined as the relative importance of each entity at a hierarchy level. Furthermore, the priority for each factor as a whole will be calculated by multiplying the weight of each factor at the criterion level with indicators at the sub-criteria level. The following is the weight value before the calculation of priorities for each factor and indicator:

Table 4. 20 Priority Weight Score

Main Factor	
Effectiveness and Performance	0,6333
Service Quality	0,1062
Service Competency	0,2605
Total	1

Effectiveness and Performance	
E1	0,1709
E2	0,0782
E3	0,3254
E4	0,4255
Total	1

Service Quality	
Q1	0,1561
Q2	0,4421
Q3	0,3385
Q4	0,0633
Total	1

Service Competency	
C1	0,3333
C2	0,6667
Total	1

Based on Table 4.20. obtained the Priority Weight (Eigen Vector) on the main factor starting from the largest Effectiveness and Performance of (0.6333), Service Competency of (0.2605), and Service Quality of (0.1062). In each Effectiveness and Performance indicator of E1, E2, E3, and E4 are (0.1709), (0.0782), (0.3254) and (0.4255) respectively. Then, each of the Service Quality indicators of Q1, Q2, Q3, and Q4 are (0.1561), (0.4421), (0.3385) and (0.0633) respectively. Finally, each Service Competency indicator for C1 is (0.3333) and C2 is (0.6667).

CHAPTER V
DISCUSSION

5.1 Indicator Prioritization

Based on the calculation of weight priority by multiplying the weight of each factor at the criterion level with indicators at the sub-criteria level. The results of the first and second largest weighting are owned by the Effectiveness and Performance factors with the indicator of Employees communicate well (E4) and The ability of employees to provide education related to the services offered (E3) with weights of 26.95% and 20.61%, the third largest is owned by the Service Competency factor with indicator Employee knowledge about the services offered (C2) with a weight of 17.37%, the fourth largest is still owned by the Effectiveness and Performance factor with indicator Strategic location and easy to reach (E1) with a weight of 10.82%, the fifth largest is also still owned by the Service Competency factor with indicator Clarity of service procedures (C1) with a weight of 8.68% and the rest of the other factors have a value with a weight of less than 5%. Table 5.1 shows the prioritization results for all indicators.

Table 5. 1 Indicator Weight Prioritization

Indicator	Weight	Percentage
E1	0,1082	10,82%
E2	0,0495	4,95%
E3	0,2061	20,61%
E4	0,2695	26,95%
Q1	0,0166	1,66%
Q2	0,0469	4,69%
Q3	0,0359	3,59%
Q4	0,0067	0,67%
C1	0,0868	8,68%
C2	0,1737	17,37%
Total	1	100%

5.2 Strategy Recommendation

Based on the results obtained, logistics service companies can implement the following strategies to increase customer satisfaction. Good communication by employees in logistics services companies is essential for operational success and customer satisfaction. With good communication, employees can better understand and meet customer needs, coordinate tasks efficiently with the team, and improve overall productivity. Furthermore, open communication facilitates sustainable innovation and improvement, while helping to manage conflict better. It not only strengthens the company's image as a professional organization but also helps maintain a good reputation in the eyes of customers and the market as a whole. The recommended strategies from looking at the benefits above are as follows:

1) Communication Training

   Develop the capacity to communicate information in a clear and effective manner to customers and colleagues through consistent training that emphasizes the development of verbal and non-verbal communication skills.

2) Soft Skills Development

   Encourage the development of soft skills, including conflict resolution, active listening, and empathy, which facilitate more effective interactions with colleagues and customers.

3) Feedback and Evaluation

   Establish a culture that fosters constructive feedback between management and employees, thereby enhancing and refining their communication abilities over time.

The ability of employees to provide education related to the services offered by logistics service companies is very important because it affects customer satisfaction and trust. Customers are more assured and informed when employees can provide a comprehensive and clear explanation of the advantages, procedures, and benefits of the services they offer. This contributes to the enhancement of the overall consumer experience and the mitigation of misunderstandings. Furthermore, customer loyalty can be enhanced through the provision of quality education, as customers perceive themselves as being well-treated and appreciated. Additionally, the company's repute is enhanced in the eyes of consumers when employees are proficient in providing education. The recommended strategies from looking at the benefits above are as follows:

1) Periodic and Structured Training Develop a comprehensive and ongoing training program for employees that involves a thorough understanding of the services provided, effective communication strategies, and presentation ability. Workshops, seminars, and real-world simulations are viable methods for conducting this training.
2) Comprehensive Educational Materials
   Provide employees with the necessary resources, including visual presentations, guides, and frequently asked questions, to facilitate the explanation of services to consumers. These materials should be readily available and maintained in accordance with the most recent advancements in the industry and company.
3) Mentoring and Feedback
   Establish a mentoring program in which employees with greater experience provide guidance to those with less experience. Additionally, employees should receive consistent feedback to enable them to identify areas for improvement and make continuous improvements to their customer education.

Employees' knowledge of the services offered by a logistics service company is very important because it has a direct effect on the quality of services provided and customers' perceptions of the company. Providing accurate information and appropriate solutions that align with customer requirements is facilitated by employees who possess a profound comprehension of products and services. This knowledge also enhances the confidence of employees in their interactions with consumers, thereby increasing customer satisfaction and trust. The company's revenue can be increased by the identification of upselling or cross-selling opportunities by knowledgeable employees. In addition, a positive company reputation is maintained by the effective management of complaints and issues that result from a high level of knowledge. The recommended strategies from looking at the benefits above are as follows:

1) Continuous Training Program
   Regularly conduct training sessions that provide a comprehensive overview of the services provided, including their features, benefits, and operational procedures. The training should be updated on a regular basis to ensure that it remains relevant and up-to-date for the employees.
2) Access to Information Resources

Easy access to resources, including manuals, guides, articles, and videos, that elucidate the service's various facets is provided. Employees may self-learn as required by accessing these resources via the e-learning platforms or the company intranet.

3) Q&A and Discussion Sessions

Encourage employees to engage in regular Q&A and discussion sessions with management or a team of experts, during which they can pose questions and share real-life experiences related to the services provided. The purpose of these sessions is to facilitate employees' comprehension of the services and their ability to implement this knowledge in their daily work.

A strategic and easily accessible location is very important for logistics service companies because it affects customer accessibility and convenience. A good location facilitates the discovery and visitation of the company by customers, thereby increasing the likelihood of direct interactions that can frequently result in superior satisfaction and loyalty. In addition, a strategic location can increase visibility and brand awareness by attracting more foot and vehicle traffic. Good accessibility also facilitates operational efficiency, including employee mobility and the shipping and receiving of products. The business growth and long-term success of logistics service companies are largely influenced by a strategic location. The recommended strategies from looking at the benefits above are as follows:

1) Market and Demographics Analysis

Market research is conducted to gain insight into the demographics of prospective customers and the traffic patterns of potential locations. Maximize the likelihood of attracting pertinent consumers by selecting locations that are in close proximity to high concentrations of the target demographics.

2) Accessibility and Infrastructure

Choose a location that is readily accessible by a variety of transportation options, including both public and private transportation. Opt for a location that is conveniently situated near public transportation facilities, such as bus stops, train stations, or sufficient parking areas, to facilitate consumer accessibility.

3) Local Partnerships and Supportive Neighborhoods

Decide on a location that is in a supportive community or an area with complementary businesses. For instance, being situated in close proximity to retail malls, restaurants, or

other business centers can enhance visibility and attract additional customers by leveraging the synergies of neighboring businesses.

Clarity of service procedures is very important for logistics service companies because it ensures consistency and quality in every interaction with customers. Clear procedures facilitate operational efficiency, reduce errors, and enhance employee comprehension of the steps to be taken. This clarity instils a sense of security and trust in consumers, as they are aware of the service's delivery and what to anticipate. It also facilitates the immediate and efficient resolution of complaints and issues, thereby enhancing consumer satisfaction. Generally, a company's reputation is bolstered and customer loyalty is fostered by the presence of clear service procedures, which provide a professional and dependable service experience. The recommended strategies from looking at the benefits above are as follows:

1) Documentation and Standard Operating Procedures (SOPs)

   Establish and disseminate standard operating procedures (SOPs) that are comprehensive and straightforward to comprehend for all services provided. These SOPs should encompass the steps that employees are required to follow in all service situations, such as the escalation and complaint management procedures.

2) Regular Training and Simulation

   Conduct regular training to guarantee that all personnel comprehend and can execute the established service protocols. In order to facilitate employees' comprehension of procedures and their ability to respond to a variety of scenarios with assurance, this training may incorporate simulations of actual service situations.

3) Feedback and Continuous Improvement

   Implement a feedback mechanism to gather input from employees and consumers regarding service procedures. Utilize this feedback to conduct regular reviews and updates of standard operating procedures (SOPs), thereby guaranteeing that they are responsive to customer requirements and changes in the business environment, are efficient, and remain relevant.

5.3 Research Weaknesses

Research on consumer satisfaction in logistics service companies is a critical undertaking that aims to enhance and comprehend the service strategies that have been implemented. However, like any other research, this study is not free from various shortcomings that can affect the results and conclusions produced. Some of the limitations encountered in this study need to be

considered to provide a more accurate context for the findings. The following are some of the shortcomings that have been identified and how they may limit the results of this research:

1) The factors and indicators used are only taken from previous research, which may not fully reflect the current or specific conditions of the company under study.
2) The number of respondents who filled out the indicator questionnaire was only 52 people, which is a relatively small sample and may not be representative enough to describe the entire customer population.
3) In pairwise comparisons, there are only 3 expert respondents involved, which can limit the diversity of perspectives and the accuracy of the judgments given.
4) This research is subjective, relying heavily on the perceptions, interpretations, and personal judgments of both researchers and respondents involved. This subjectivity can be seen from the determination of the number of factors and indicators, decisions made by experts in providing weights, to adjustments made to obtain the Consistency Ratio (CR).

Although this study has some shortcomings that may limit the results and conclusions drawn, acknowledging these weaknesses is an important step in the scientific research process. By understanding the limitations, future researchers can design more comprehensive and accurate follow-up studies. In addition, acknowledging these shortcomings also helps in the interpretation of the research results, allowing stakeholders to make more informed decisions. Therefore, despite some limitations, this study still makes a valuable contribution to understanding the customer satisfaction of logistics service companies and can serve as a basis for further research in the future.

CHAPTER VI
CLOSING

6.1 Conclusion

By the end of the research, related to the analysis of the main factors of customer satisfaction of logistics service company, several conclusions can be withdrawn, as follows:

1) The results of *Confirmatory Factor Analysis* (CFA) have reduced 20 indicators to 10 indicators which are divided into three groups of factors. First, the Effectiveness and Performance Factors consist of Strategic location and easy-to-reach, Accuracy, and expertise of employees in service, Ability of employees to provide education related to the services offered and Employees communicate well. Second, the Service Quality Factor consists of Employees providing optimal service time according to customer needs, Employee sensitivity and care, Understanding customer needs and wants, and Prices by services. Last, the Service Competency Factor consists of Clarity of service procedures and Employee knowledge of the services offered.
2) The results of the prioritization of factors and indicators show that the factors that have the highest percentage value are owned by the category of Effectiveness and Performance (63.33%), Service Competence (26.05%), and Service Quality (10.62%). Then, the results of indicator prioritization show that the indicator Employees communicate well (E4) has the highest percentage value with a value of (26.95%), The ability of employees to provide education related to the services offered (E3) by (20.61%), Employee knowledge of the services offered (C2) by (17.37%), Strategic location and easy to reach (E1) by (10.82%), Clarity of service procedures (C1) by (8.68%) and other indicators that have a percentage value < 5%, namely, Accuracy and expertise of employees in service (E2), Employee sensitivity and care (Q2), Understanding customer needs and wants (Q3), Employees provide optimal service time according to customer needs (Q1) and Prices in according to services (Q4).

3) There are several strategic recommendations to improve customer satisfaction in logistics service companies, some key strategies can be implemented. First, focus on improving employees' communication skills through regular training, soft skills development, and a culture of constructive feedback. This will facilitate the improvement of team coordination and conflict management, as well as the better understanding and fulfillment of consumer needs by employees. Second, strengthen employees' ability to provide education related to the services offered. It is crucial that employees are able to provide a detailed and concise explanation of the benefits, procedures, and advantages of services through the implementation of structured and continuous training programs, the utilization of comprehensive educational materials, and regular mentoring and feedback systems. Third, improve employees' knowledge of the services offered through ongoing training programs, easy access to information resources, and regular Q&A sessions and discussions. This will improve the confidence of employees in their ability to interact with consumers and provide them with accurate information and appropriate solutions. Fourth, choose a strategic and easy-to-reach location to improve customer accessibility and convenience. Conduct a market and demographic analysis to gain insight into the target audience, guarantee accessibility through a variety of transportation options, and select a location that is in close proximity to complementary businesses for better visibility and synergy. Last, ensure clarity of service procedures through detailed SOP documentation, regular training and simulations, and continuous feedback and improvement mechanisms. It is expected that logistics service companies will improve their service quality, customer satisfaction, and corporate reputation, as well as facilitate long-term business growth, by implementing these strategies. This will improve operational efficiency and guarantee consistency and quality in all customer interactions.

6.2 Suggestion

There are numerous recommendations that may be implemented to mitigate the deficiencies of this research. Ensure that the information is current and aligns with the current and specific conditions of the company under study by updating it with the most recent research. These factors and indicators should be considered. After that, endeavor to augment the quantity of respondents in order to ensure that the findings are more representative. This can be

accomplished by increasing the survey's scope or offering incentives to encourage additional participants. Then, incorporate additional experts into the comparison process to ensure that the perspectives obtained are more precise and diverse. The assessment results will be more comprehensive and less influenced by individual perspectives as a result of the involvement of more experts. Lastly, to mitigate subjectivity, implement a more transparent and objective methodology. These suggestions are intended to enhance the accuracy and relevance of future research, as well as to offer more valuable insights for the development of logistics service strategies.

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APPENDIX

Questionnaire Online Form



ANALISIS FAKTOR UTAMA KEPUASAN PELANGGAN PADA PERUSAHAAN JASA

Assalaamu'alaikum wa rahmatullahi wa barakaatuh
Halo, semuanyaa!

Perkenalkan saya Dwi Abdul Rahim, yang saat ini sedang dalam penyusunan laporan Tugas Akhir di Universitas Islam Indonesia. Saat ini saya sedang melakukan survei untuk mengumpulkan informasi dan data terkait Faktor Utama Kepuasan Pelanggan pada Perusahaan Jasa. Saya dengan tulus meminta tolong atas ketersediaan para responden untuk memilih jawaban di bawah ini sesuai dengan pengalaman yang Anda rasakan dan ketahui.

Jawaban yang Anda berikan akan terjaga dan bersifat rahasia. Atas perhatian dan ketersediannya saya ucapkan terima kasih.
Wassalamualaikum wa rahmatullahi wa barakatuh

17522175@students.uii.ac.id Switch account

Not shared

* Indicates required question

Nama/Insial

(tidak wajib diisi)

Your answer

Jenis Kelamin *

- ◯ Laki-laki
- ◯ Perempuan

Usia *

- ◯ <15 tahun
- ◯ 15 - 25 tahun
- ◯ 26 - 40 tahun
- ◯ 41 - 55 tahun
- ◯ > 55 tahun

Pendidikan Terakhir *

- ◯ SMA/SMK
- ◯ Diploma
- ◯ Starta 1
- ◯ Starta 2
- ◯ Other:

Pekerjaan *

- ◯ Pelajar/Mahasiswa
- ◯ PNS/TNI/POLRI/BUMN
- ◯ Pegawai Swasta/Wiraswasta
- ◯ Pedagang
- ◯ IRT
- ◯ Other:

Penghasilan/Uang Saku *

- ◯ < Rp 1.500.000
- ◯ Rp 1.500.001 - Rp 3.000.000
- ◯ Rp 3.000.001 - Rp 5.000.000
- ◯ > Rp 5.000.001

PERTANYAAN

Jenis-jenis perusahaan jasa yang biasa ditemukan dalam kehidupan sehari-hari:

- Jasa Keuangan seperti Bank Rakyat Indonesia, Pegadaian, Asuransi
- Jasa Transportasi seperti Garuda Indonesia Airlines, Kereta Api Indonesia, Blue Bird
- Jasa Logistik seperti PT Pos Indonesia, JNE, SiCepat
- Jasa Telekomunikasi seperti PlazaTelkomsel, Smartfren, XL Axiata
- Jasa Pendidikan dan Kursus seperti Universitas, English First, Cilacs
- Dan jenis jasa lainnya

1. Seberapa penting perusahaan jasa memiliki lokasi yang strategis dan mudah dijangkau? *

- ◯ Sangat Tidak Penting
- ◯ Tidak Penting
- ◯ Netral
- ◯ Penting
- ◯ Sangat Penting

2. Seberapa penting ruang tunggu yang nyaman dan memadai untuk perusahaan jasa? *

3. Seberapa penting kebersihan dan kerapian ruang tunggu untuk perusahaan jasa? *

4. Seberapa penting penampilan karyawan untuk perusahaan jasa? *

5. Seberapa penting kecermatan dan keahlian karyawan dalam pelayanan untuk perusahaan jasa? *

6. Seberapa penting kemampuan karyawan dalam memberikan edukasi terkait jasa yang ditawarkan untuk perusahaan jasa? *

7. Seberapa penting seorang karyawan memberikan waktu layanan yang optimal sesuai dengan kebutuhan pelanggan? *

8. Seberapa penting kepekaan dan kepedulian yang dimiliki karyawan perusahaan jasa? *

9. Seberapa penting seorang karyawan dapat berkomunikasi dengan baik kepada pelanggan di perusahaan jasa? *

10. Seberapa penting seorang karyawan perusahan jasa dalam memahami kebutuhan dan keinginan pelanggan? *

11. Apakah kejelasan prosedur pelayanan sangat penting bagi perusahaan jasa? *

12. Apakah keamanan pelanggan sangat penting bagi perusahaan jasa? *
(keamanan data dan saat dilokasi)

13. Apakah pengetahuan karyawan mengenai jasa yang ditawarkan sangat penting bagi perusahaan jasa? *

14. Apakah kesigapan dalam menghadapi keluhan/pengaduan sangat penting bagi perusahaan jasa? *

15. Apakah antrian yang jelas dan sesuai sangat penting bagi perusahaan jasa? *

16. Apakah penyampaian informasi yang jelas dan mudah dimengerti oleh pelanggan sangat penting bagi perusahaan jasa? *

17. Apakah kesesuaian informasi terkait jasa yang ditawarkan sangat penting bagi perusahaan jasa? *

18. Apakah harga yang sesuai dengan jasa yang ditawarkan sangat penting bagi perusahaan jasa? *

19. Apakah kemudahan dalam pembayaran sangat penting bagi perusahaan jasa? *
(contohnya pembayaran secara tunai, QRIS, e-wallet dan lainnya)

20. Apakah perlengkapan dan peralatan (teknologi) yang dipergunakan sangat penting bagi perusahaan jasa? *

- ◯ Sangat Tidak Penting
- ◯ Tidak Penting
- ◯ Netral
- ◯ Penting
- ◯ Sangat Penting

Submit Clear form

Respondent Data

Gender	Age	Last Education	Work	Income	X																			
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Male	41 - 55 tahun	Starta 2	PNS/TNI/POLRI/BUMN	> Rp 5.000.001	2	5	5	2	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5
Male	26 - 40 tahun	Starta 1	Pegawai Swasta/Wiraswasta	Rp 3.000.001 - Rp 5.000.000	5	5	5	5	4	5	4	4	5	5	5	5	5	5	4	4	5	5	5	5
Male	26 - 40 tahun	Starta 1	Pegawai Swasta/Wiraswasta	Rp 1.500.001 - Rp 3.000.000	4	4	4	4	4	5	4	4	5	4	4	5	4	3	4	5	4	4	5	3
Male	41 - 55 tahun	Starta 1	PNS/TNI/POLRI/BUMN	Rp 3.000.001 - Rp 5.000.000	5	5	5	4	5	4	4	4	4	4	5	5	4	5	4	4	4	4	4	4
Female	26 - 40 tahun	Starta 2	Pelajar/Mahasiswa	Rp 1.500.001 - Rp 3.000.000	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	4	4	4	4
Female	26 - 40 tahun	Starta 1	IRT	> Rp 5.000.001	1	1	1	4	1	1	4	4	1	4	4	5	5	5	5	5	5	5	5	5
Male	41 - 55 tahun	Starta 2	PNS/TNI/POLRI/BUMN	> Rp 5.000.001	5	5	5	4	5	4	5	4	4	5	5	5	5	5	5	5	5	5	4	5
Male	41 - 55 tahun	Starta 2	Pegawai Swasta/Wiraswasta	> Rp 5.000.001	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5
Female	26 - 40 tahun	Starta 2	PNS/TNI/POLRI/BUMN	> Rp 5.000.001	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	4

Male	26 - 40 tahun	Starta 2	Guru	Rp 1.500.001 - Rp 3.000.000	4	4	4	4	5	5	5	5	5	5	4	5	5	5	4	5	5	4	4	4
Male	41 - 55 tahun	Starta 1	Pegawai Swasta/Wiraswasta	Rp 1.500.001 - Rp 3.000.000	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	4
Female	15 - 25 tahun	Starta 1	Pegawai Swasta/Wiraswasta	Rp 1.500.001 - Rp 3.000.000	5	5	5	5	5	5	3	5	5	5	5	5	3	4	3	4	5	3	5	5
Male	15 - 25 tahun	SMA/SMK	Pelajar/Mahasiswa	< Rp 1.500.000	4	4	4	4	4	4	2	4	3	4	4	4	3	4	2	4	4	4	2	3
Female	41 - 55 tahun	SMA/SMK	PNS/TNI/POLRI/BUMN	Rp 3.000.001 - Rp 5.000.000	2	4	4	2	5	4	2	4	4	4	5	5	4	4	5	3	4	3	5	2
Male	41 - 55 tahun	SMA/SMK	PNS/TNI/POLRI/BUMN	Rp 3.000.001 - Rp 5.000.000	1	5	4	5	4	3	1	3	4	4	5	5	4	3	3	4	4	4	3	5
Male	26 - 40 tahun	Starta 1	Pegawai Swasta/Wiraswasta	> Rp 5.000.001	2	4	4	2	4	5	3	5	4	4	4	5	4	5	3	3	4	5	5	2
Female	26 - 40 tahun	SMA/SMK	PNS/TNI/POLRI/BUMN	Rp 3.000.001 - Rp 5.000.000	2	2	3	4	3	5	4	5	5	3	3	5	3	5	3	3	4	2	4	5
Male	26 - 40 tahun	SMA/SMK	Pedagang	Rp 1.500.001 - Rp 3.000.000	2	2	3	4	5	5	2	4	3	4	4	5	5	4	5	3	4	3	2	3
Male	26 - 40 tahun	SMA/SMK	Pegawai Swasta/Wiraswasta	Rp 1.500.001 -	2	4	4	3	3	3	2	4	2	4	4	5	4	3	3	3	4	2	5	5

				Rp 3.000.000																				
Female	26 - 40 tahun	Starta 1	IRT	< Rp 1.500.000	2	3	4	3	3	4	2	4	3	2	3	5	4	3	4	5	3	4	4	5
Female	15 - 25 tahun	SMA/SMK	Pelajar/Mahasiswa	< Rp 1.500.000	4	4	3	2	4	3	2	2	3	3	3	5	4	5	4	3	4	2	5	4
Male	15 - 25 tahun	SMA/SMK	Pegawai Swasta/Wiraswasta	Rp 1.500.001 - Rp 3.000.000	4	4	2	5	4	5	2	3	4	3	5	5	3	3	4	3	5	3	5	3
Male	15 - 25 tahun	Starta 1	Pelajar/Mahasiswa	< Rp 1.500.000	1	3	4	2	5	4	1	2	5	4	5	5	5	3	4	4	5	2	3	4
Female	15 - 25 tahun	Starta 1	Pegawai Swasta/Wiraswasta	< Rp 1.500.000	5	4	4	4	5	5	3	3	4	4	5	5	4	4	5	4	5	3	4	5
Male	15 - 25 tahun	Starta 1	Pelajar/Mahasiswa	< Rp 1.500.000	3	4	4	2	4	4	2	5	3	3	5	5	5	3	5	4	3	1	3	5
Female	15 - 25 tahun	SMA/SMK	Pedagang	Rp 1.500.001 - Rp 3.000.000	4	3	4	2	4	5	3	3	4	4	4	4	3	3	4	5	5	4	3	4
Male	15 - 25 tahun	Starta 1	Freelance	< Rp 1.500.000	4	4	5	1	4	5	3	4	4	3	5	5	4	4	4	3	4	2	4	5
Male	15 - 25 tahun	Starta 1	Pegawai Swasta/Wiraswasta	Rp 3.000.001 - Rp 5.000.000	4	5	3	4	3	4	1	4	4	3	4	5	4	5	4	3	5	5	4	3
Male	26 - 40 tahun	SMA/SMK	Pegawai Swasta/Wiraswasta	Rp 3.000.001 - Rp 5.000.000	4	2	3	4	5	5	4	1	4	4	4	5	5	3	4	4	4	3	2	3

Female	15 - 25 tahun	SMA/SMK	Pegawai Swasta/Wiraswasta	Rp 1.500.001 - Rp 3.000.000	4	4	4	4	3	4	4	4	3	3	4	5	4	4	5	3	5	5	3	2
Female	15 - 25 tahun	SMA/SMK	Pedagang	Rp 1.500.001 - Rp 3.000.000	2	4	5	3	5	5	2	2	4	3	5	5	4	3	5	5	5	1	2	3
Male	15 - 25 tahun	Starta 1	Pelajar/Mahasiswa	< Rp 1.500.000	4	5	4	5	5	5	5	4	5	5	5	5	4	5	4	5	5	4	3	3
Male	15 - 25 tahun	SMA/SMK	Pelajar/Mahasiswa	< Rp 1.500.000	5	4	4	3	5	5	4	3	4	4	4	5	4	3	2	5	4	4	4	3
Male	15 - 25 tahun	Starta 2	Peternak	> Rp 5.000.001	4	5	4	3	5	5	4	5	5	5	4	3	4	5	4	4	5	5	4	4
Female	15 - 25 tahun	SMA/SMK	Pelajar/Mahasiswa	< Rp 1.500.000	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Male	15 - 25 tahun	Starta 1	Pegawai Swasta/Wiraswasta	Rp 3.000.001 - Rp 5.000.000	4	3	5	3	4	5	4	2	3	4	5	5	5	4	5	4	3	2	4	4
Male	15 - 25 tahun	SMA/SMK	Pelajar/Mahasiswa	< Rp 1.500.000	5	5	4	2	4	5	2	4	5	2	4	5	4	4	4	5	4	2	4	4
Male	15 - 25 tahun	Starta 1	Pegawai Swasta/Wiraswasta	Rp 3.000.001 - Rp 5.000.000	2	2	4	2	3	5	3	4	2	4	5	5	3	5	5	5	5	2	5	4
Male	15 - 25 tahun	Starta 1	Pegawai Swasta/Wiraswasta	Rp 3.000.001 - Rp 5.000.000	2	4	4	2	5	5	1	4	4	3	5	5	5	4	4	4	5	2	5	4

Male	15 - 25 tahun	Starta 1	Tenaga Pendidik	Rp 1.500.001 - Rp 3.000.000	3	4	5	5	3	4	2	4	4	5	4	5	5	3	4	4	3	4	4	4
Male	15 - 25 tahun	Starta 1	PNS/TNI/POLRI/BUMN	Rp 3.000.001 - Rp 5.000.000	4	3	4	4	4	4	2	2	4	2	4	5	3	4	4	2	2	2	4	5
Male	15 - 25 tahun	Starta 1	Perawat	Rp 1.500.001 - Rp 3.000.000	2	4	5	1	4	5	1	2	4	4	5	5	3	4	5	4	5	3	5	5
Male	26 - 40 tahun	SMA/SMK	PNS/TNI/POLRI/BUMN	Rp 3.000.001 - Rp 5.000.000	2	4	4	4	5	5	3	3	3	3	4	5	5	3	4	4	5	3	5	5
Male	26 - 40 tahun	SMA/SMK	Pelajar/Mahasiswa	< Rp 1.500.000	4	5	5	4	3	4	2	4	3	3	4	3	4	2	4	3	4	4	3	5
Male	15 - 25 tahun	SMA/SMK	Pelajar/Mahasiswa	< Rp 1.500.000	5	4	4	1	4	4	2	4	5	3	5	5	3	2	4	3	4	4	5	3
Male	26 - 40 tahun	Starta 1	Pegawai Swasta/Wiraswasta	< Rp 1.500.000	3	4	5	1	4	5	2	3	4	2	4	5	3	4	5	5	4	5	4	5
Male	26 - 40 tahun	Starta 1	Pegawai Swasta/Wiraswasta	Rp 1.500.001 - Rp 3.000.000	4	5	5	3	5	5	1	1	3	2	4	5	3	4	4	4	4	4	3	4
Male	26 - 40 tahun	SMA/SMK	Pelajar/Mahasiswa	< Rp 1.500.000	2	4	4	2	4	5	3	3	3	2	5	4	5	4	5	4	5	3	4	5
Female	26 - 40 tahun	Starta 1	PNS/TNI/POLRI/BUMN	Rp 3.000.001 - Rp 5.000.000	4	5	5	5	4	5	3	5	5	5	5	5	4	5	4	3	3	4	5	5

Female	15 - 25 tahun	Starta 1	Pedagang	< Rp 1.500.000	1	4	4	3	4	5	4	4	4	3	5	5	3	3	3	4	3	4	4	3
Male	26 - 40 tahun	Starta 1	PNS/TNI/POLRI/BUMN	> Rp 5.000.001	4	4	4	4	5	5	4	3	3	4	4	5	4	5	4	4	4	5	3	4
Female	26 - 40 tahun	Starta 2	PNS/TNI/POLRI/BUMN	> Rp 5.000.001	3	4	4	4	5	5	5	4	4	4	5	5	5	5	5	5	5	5	5	5

Demographic Data

Criteria	Category	Percentage
Gender	Male	69,23%
	Female	30,77%
Age	15 - 25 Years	48,08%
	26 - 40 Years	38,46%
	41 - 55 Years	13,46%
Last Education	Senior High School	36,54%
	Bachelor Degree (S1)	48,08%
	Master Degree (S2)	15,38%
Type of Work	Students	23,08%
	PNS/TNI/POLRI/BUMN	23,08%
	Private Employee/Self-Employed	32,69%
	Merchants	7,69%
	Housewife	3,85%
	Others	9,62%
Income/Allowance	< Rp 1.500.000	30,77%
	Rp 1.500.001 - Rp 3.000.000	26,92%
	Rp 3.000.001 - Rp 5.000.000	25,00%

	> Rp 5.000.001	17,31%

Realiability Test

Case Processing Summary

		N	%
Cases	Valid	52	100,0
	Excluded[a]	0	0,0
	Total	52	100,0

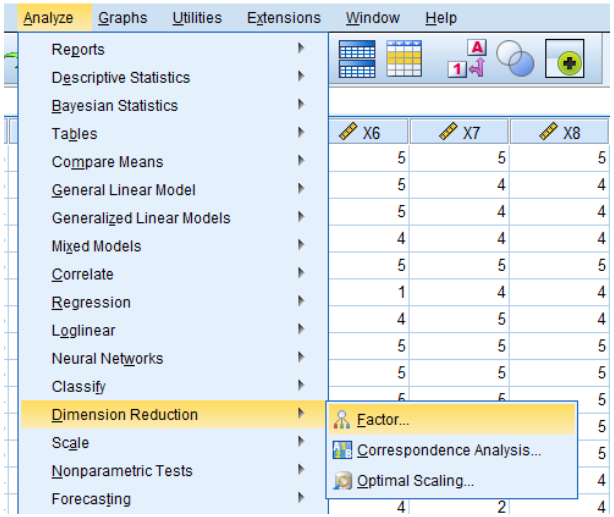
Reliability Statistics

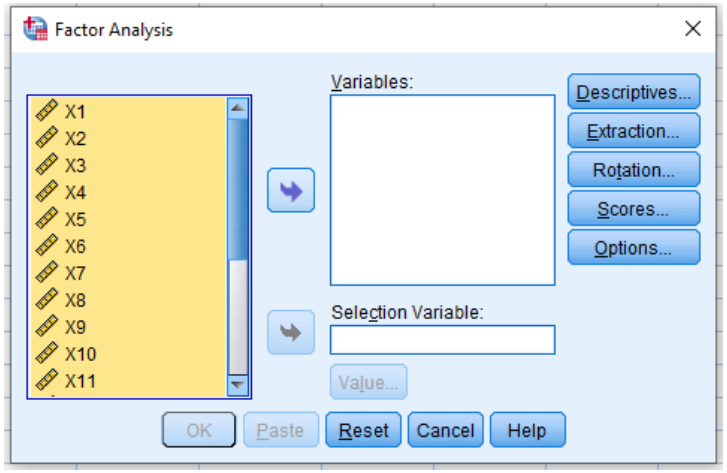
Cronbach's Alpha	N of Items
0,823	20

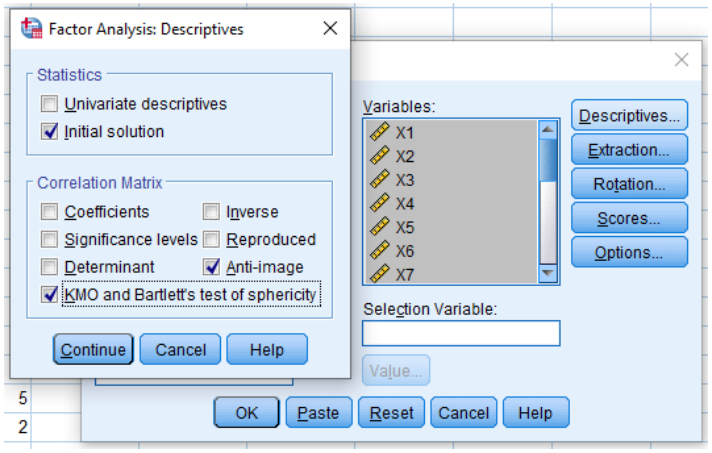
Item-Total Statistics

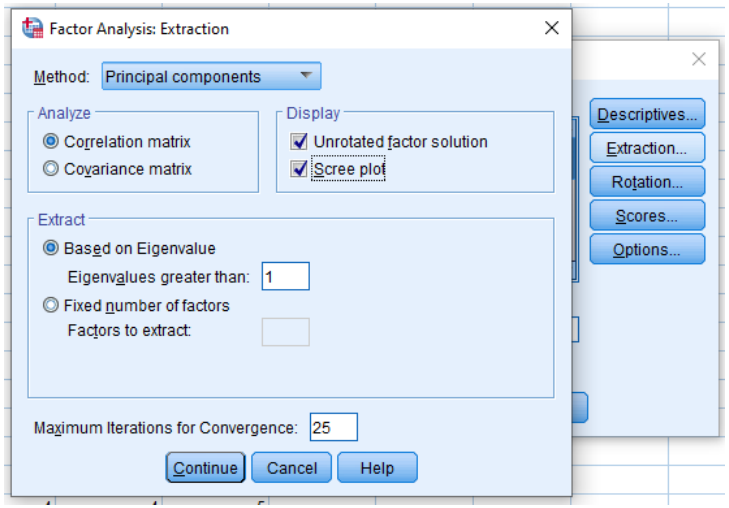
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
X1	76,83	71,950	0,418	0,815
X2	76,21	73,386	0,516	0,809
X3	76,08	76,033	0,424	0,814
X4	76,87	74,276	0,332	0,821
X5	76,00	75,725	0,430	0,814
X6	75,69	77,707	0,335	0,818
X7	77,15	66,603	0,668	0,797
X8	76,52	73,353	0,449	0,812
X9	76,29	73,307	0,535	0,808
X10	76,46	71,116	0,657	0,801
X11	75,79	78,680	0,356	0,818
X12	75,38	82,320	0,047	0,826
X13	76,10	77,226	0,371	0,817
X14	76,19	73,962	0,514	0,810
X15	76,06	78,957	0,235	0,822
X16	76,17	75,950	0,428	0,814
X17	75,94	78,095	0,317	0,819
X18	76,67	73,479	0,398	0,816
X19	76,19	78,002	0,243	0,823
X20	76,15	80,094	0,115	0,829

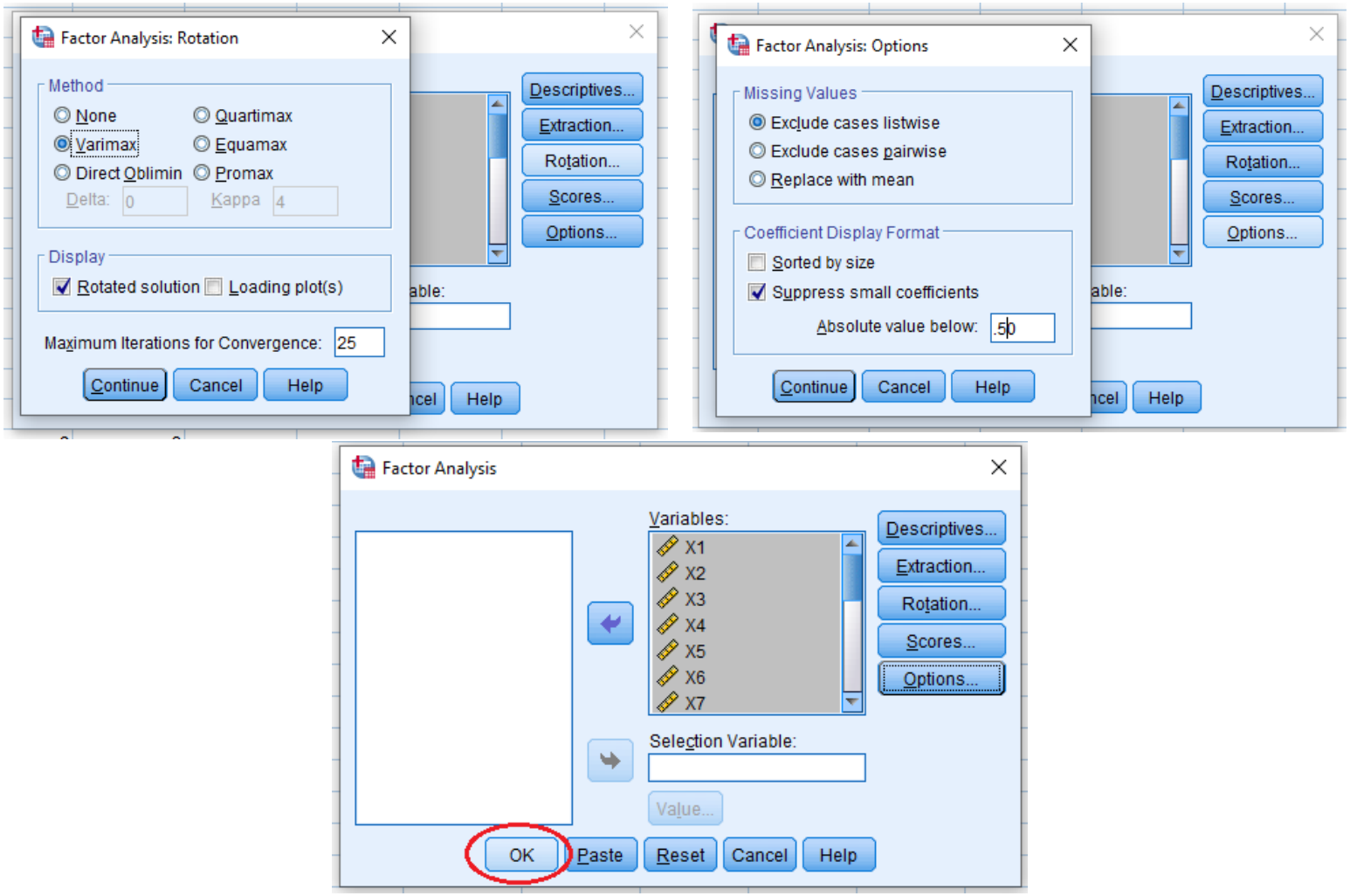
Confirmatory Factor Analysis Steps at SPSS










Factor Analysis: Rotation
Method
None
Quartimax
Varimax
Equamax
Direct Oblimin
Promax
Delta: 0
Kappa 4
Display
Rotated solution
Loading plot(s)
Maximum Iterations for Convergence: 25
Continue
Cancel
Help
Descriptives...
Extraction...
Rotation...
Scores...
Options...
Factor Analysis: Options
Missing Values
Exclude cases listwise
Exclude cases pairwise
Replace with mean
Coefficient Display Format
Sorted by size
Suppress small coefficients
Absolute value below: .50
Factor Analysis
Variables:
X1
X2
X3
X4
X5
X6
X7
Selection Variable:
Value...
OK
Paste
Reset

Factor Analysis

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0,553
Bartlett's Test of Sphericity	Approx. Chi-Square	393,077
	df	190
	Sig.	0,000

Anti-image Matrices						
Anti-image Correlation	Indicator	λ	Status	Indicator	λ	Status
	X1	.701[a]	Fulfilled	X11	.569[a]	Fulfilled
	X2	.457[a]	Eliminated	X12	.177[a]	Eliminated
	X3	.482[a]	Eliminated	X13	.606[a]	Fulfilled
	X4	.407[a]	Eliminated	X14	.608[a]	Fulfilled
	X5	.650[a]	Fulfilled	X15	.478[a]	Eliminated
	X6	.516[a]	Fulfilled	X16	.598[a]	Fulfilled
	X7	.713[a]	Fulfilled	X17	.557[a]	Fulfilled
	X8	.689[a]	Fulfilled	X18	.723[a]	Fulfilled
	X9	.804[a]	Fulfilled	X19	.353[a]	Eliminated
	X10	.559[a]	Fulfilled	X20	.230[a]	Eliminated

X2, X3, X4, X12, X15, X19, and X20 will be eliminated because the loading factor < 0.50

Factor Analysis Iteratian (1)

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0,755
Bartlett's Test of Sphericity	Approx. Chi-Square	205,706
	df	78
	Sig.	0,000

Anti-image Matrices			
Anti-image Correlation	Indicator	λ	Status
	X1	.774[a]	Fulfilled
	X5	.677[a]	Fulfilled
	X6	.654[a]	Fulfilled

	X7	.771[a]	Fulfilled
	X8	.706[a]	Fulfilled
	X9	.769[a]	Fulfilled
	X10	.834[a]	Fulfilled
	X11	.758[a]	Fulfilled
	X13	.692[a]	Fulfilled
	X14	.827[a]	Fulfilled
	X16	.773[a]	Fulfilled
	X17	.734[a]	Fulfilled
	X18	.831[a]	Fulfilled

Communalities

Indicator	Initial	Extraction	Status
X1	1,000	0,539	Fulfilled
X5	1,000	0,754	Fulfilled
X6	1,000	0,689	Fulfilled
X7	1,000	0,706	Fulfilled
X8	1,000	0,503	Fulfilled
X9	1,000	0,686	Fulfilled
X10	1,000	0,636	Fulfilled
X11	1,000	0,505	Fulfilled
X13	1,000	0,509	Fulfilled
X14	1,000	0,486	Eliminated
X16	1,000	0,438	Eliminated
X17	1,000	0,404	Eliminated
X18	1,000	0,531	Fulfilled

X14, X16, X17 will be eliminated because the value < 0.50

Factor Analysis Iteration (2)

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0,711
Bartlett's Test of Sphericity	Approx. Chi-Square	160,233
	df	45
	Sig.	0,000

Anti-image Matrices			
Anti-image Correlation	Indicator	λ	Status
	X1	.774[a]	Fulfilled
	X5	.651[a]	Fulfilled
	X6	.628[a]	Fulfilled
	X7	.729[a]	Fulfilled
	X8	.669[a]	Fulfilled
	X9	.765[a]	Fulfilled
	X10	.774[a]	Fulfilled
	X11	.770[a]	Fulfilled
	X13	.598[a]	Fulfilled
	X18	.777[a]	Fulfilled

Communalities			
Indicator	Initial	Extraction	Status
X1	1,000	0,566	Fulfilled
X5	1,000	0,766	Fulfilled
X6	1,000	0,707	Fulfilled
X7	1,000	0,687	Fulfilled
X8	1,000	0,526	Fulfilled
X9	1,000	0,672	Fulfilled
X10	1,000	0,716	Fulfilled
X11	1,000	0,572	Fulfilled
X13	1,000	0,652	Fulfilled
X18	1,000	0,606	Fulfilled

Rotated Component Matrix[a]			
Indicator	Component		
	1	2	3
X1	0,582		
X5	0,782		
X6	0,839		
X7		0,747	
X8		0,713	
X9	0,758		
X10		0,659	
X11			0,677
X13			0,728
X18		0,763	

Confirmatory Factor Analysis Result

Code	New Code	New Factor	Indicator
X1	E1	Effectiveness and Performance (E)	Strategic location and easy to reach
X5	E2		Accuracy and expertise of employees in service
X6	E3		The ability of employees to provide education related to the services offered
X9	E4		Employees communicate well
X7	Q1	Service Quality (Q)	Employees provide optimal service time according to customer needs
X8	Q2		Employee sensitivity and care
X10	Q3		Understand customer needs and wants
X18	Q4		Price accordance with the service
X11	C1	Service Competency (C)	Clarity of service procedures
X13	C2		Employee knowledge of the services offered

Pairwise Comparison Analytical Hierarchy Process

Main Factor																			
Code	**Factor**	**Rating Scale**																**Factor**	**Code**
E	Efectiveness and Performance	9	8	7	6	**5**	4	3	2	1	2	3	4	5	6	7	8	9	Service Quality	Q
E	Efectiveness and Performance	9	8	7	6	5	4	**3**	2	1	2	3	4	5	6	7	8	9	Service Competency	C
Q	Service Quality	9	8	7	6	5	4	3	2	1	2	**3**	4	5	6	7	8	9	Service Competency	C

Effectiveness and Performance																			
Code	**Indicator**	**Rating Scale**																**Indicator**	**Code**
E1	Strategic location and easy to reach	9	8	7	6	5	4	**3**	2	1	2	3	4	5	6	7	8	9	Accuracy and expertise of employees in service	E2
		9	8	7	6	5	4	3	2	1	2	3	**4**	5	6	7	8	9	The ability of employees to provide education related to the services offered	E3
		9	8	7	6	5	4	3	2	1	**2**	3	4	5	6	7	8	9	Employees communicate well	E4
E2	Accuracy and expertise of employees in service	9	8	7	6	5	4	3	2	1	2	**3**	4	5	6	7	8	9	The ability of employees to provide education related to the services offered	E3
		9	8	7	6	5	4	3	2	1	2	3	4	**5**	6	7	8	9	Employees communicate well	E4
E3	The ability of employees to provide education related to the services offered	9	8	7	6	5	4	3	2	1	**2**	3	4	5	6	7	8	9	Employees communicate well	E4

Service Quality				
Code	**Indicator**	**Rating Scale**	**Indicator**	**Code**
Q1	Employees provide optimal service time according to customer needs	9 8 7 6 5 4 3 2 1 2 **3** 4 5 6 7 8 9	Employee sensitivity and care	Q2
		9 8 7 6 5 4 3 2 1 2 3 **4** 5 6 7 8 9	Understanding customer needs and wants	Q3
		9 8 7 6 5 **4** 3 2 1 2 3 4 5 6 7 8 9	Price accordance with the service	Q4
Q2	Employee sensitivity and care	9 8 7 6 5 4 3 **2** 1 2 3 4 5 6 7 8 9	Understanding customer needs and wants	Q3
		9 8 7 6 **5** 4 3 2 1 2 3 4 5 6 7 8 9	Price accordance with the service	Q4
Q3	Understanding customer needs and wants	9 8 7 6 **5** 4 3 2 1 2 3 4 5 6 7 8 9	Price accordance with the service	Q4

Service Competency				
Code	**Indicator**	**Rating Scale**	**Indicator**	**Code**
C1	Clarity of service procedures	9 8 7 6 5 4 3 2 1 **2** 3 4 5 6 7 8 9	Employee knowledge about the services offered	C2

Consistency Test Analytical Hierarchy Process

Main Factor														
Factor	**E**	**Q**	**C**	**E**	**Q**	**C**	**Total Weight Matrix**	**Eigen Vector**	**Multiplication Matrix**	**Eigen Value**	**ʎ max**	**CI**	**IR**	**CR**
E	1	5	3	0,6522	0,5556	0,6923	1,9000	0,6333	1,9456	3,0720	3,0387	0,0194	0,58	0,0334
Q	0,2	1	0,333	0,1304	0,1111	0,0769	0,3185	0,1062	0,3197	3,0112				
C	0,333	3	1	0,2174	0,3333	0,2308	0,7815	0,2605	0,7901	3,0330				
Total	1,533	9	4,333	1	1	1	3	1	3,0554	9,1161				

Effectiveness and Performance															
Indicator	**E1**	**E2**	**E3**	**E4**	**E1**	**E2**	**E3**	**E4**	**Total Weight Matrix**	**Eigen Vector**	**Multiplication Matrix**	**Eigen Value**	**ʎ max**	**CI**	**IR**	**CR**
E1	1	3	0,25	0,5	0,1364	0,25	0,0698	0,2273	0,683	0,1709	0,6995	4,0943	4,2561	0,0854	0,9	0,0949
E2	0,333	1	0,333	0,2	0,0455	0,0833	0,0930	0,0909	0,313	0,0782	0,3287	4,2046				
E3	4	3	1	0,5	0,5455	0,25	0,2791	0,2273	1,302	0,3254	1,4562	4,4743				
E4	2	5	2	1	0,2727	0,4167	0,5581	0,4545	1,702	0,4255	1,8090	4,2513				
Total	7,333	12	3,583	2,2	1	1	1	1	4	1	4,2934	17,0245				

Service Quality															
Indicator	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Total Weight Matrix**	**Eigen Vector**	**Multiplication Matrix**	**Eigen Value**	**ʎ max**	**CI**	**IR**	**CR**
Q1	1	0,333	0,25	4	0,1212	0,1639	0,0725	0,2667	0,6243	0,1561	0,6414	4,1095	4,2325	0,0775	0,9	0,0861
Q2	3	1	2	5	0,3636	0,4918	0,5797	0,3333	1,7685	0,4421	1,9039	4,3063				
Q3	4	0,5	1	5	0,4848	0,2459	0,2899	0,3333	1,3539	0,3385	1,5004	4,4328				
Q4	0,25	0,2	0,2	1	0,0303	0,0984	0,0580	0,0667	0,2533	0,0633	0,2585	4,0815				
Total	8,25	2,033	3,45	15	1	1	1	1	4	1	4,3042	16,9302				

Service Competency												
Indicator	**C1**	**C2**	**C1**	**C2**	**Total Weight Matrix**	**Eigen Vector**	**Multiplication Matrix**	**Eigen Value**	**ʎ max**	**CI**	**IR**	**CR**
C1	1	0,5	0,3333	0,3333	0,6667	0,3333	0,6667	2	2	0	0	0
C2	2	1	0,6667	0,6667	1,3333	0,6667	1,3333	2				
Total	3	1,5	1	1	2	1	2	4				

Analytical Hierarchy Process at Priority Weight

Main Factor	
Effectiveness and Performance	0,6333
Service Quality	0,1062
Service Competency	0,2605
Total	1

Effectiveness and Performance	
E1	0,1709
E2	0,0782
E3	0,3254
E4	0,4255
Total	1

Service Quality	
Q1	0,1561
Q2	0,4421
Q3	0,3385
Q4	0,0633
Total	1

Service Competency	
C1	0,3333
C2	0,6667
Total	1

Indicator	**Weight**	**Percentage**
E1	0,1082	10,82%
E2	0,0495	4,95%
E3	0,2061	20,61%
E4	0,2695	26,95%
Q1	0,0166	1,66%
Q2	0,0469	4,69%
Q3	0,0359	3,59%
Q4	0,0067	0,67%
C1	0,0868	8,68%
C2	0,1737	17,37%
Total	1	100%

Factor and Indicator Prioritization

No	Kode	Faktor	Persentase
1	E	Effectiveness and Performance	63,33%
2	C	Service Competency	26,05%
3	Q	Service Quality	10,62%

No	Code	Indicator	Percentage
1	E4	Employees communicate well	26,95%
2	E3	The ability of employees to provide education related to the services offered	20,61%
3	C2	Employee knowledge about the services offered	17,37%
4	E1	Strategic location and easy to reach	10,82%
5	C1	Clarity of service procedures	8,68%
6	E2	Accuracy and expertise of employees in service	4,95%
7	Q2	Employee sensitivity and care	4,69%
8	Q3	Understanding customer needs and wants	3,59%
9	Q1	Employees provide optimal service time according to customer needs	1,66%
10	Q4	Price is in accordance with the service	0,67%