Article

Customer Perception of Logistics Service Quality Using SIPA and Modified Kano: Case Study of Indonesian E-Commerce

Ilyas Masudin [1,*], Yulyetha Kurnia Putri Hanifah [1], Shanty Kusuma Dewi [1], Dian Palupi Restuputri [1,*] and Dwi Iryaning Handayani [2]

[1] Industrial Engineering Department, University of Muhammadiyah Malang, Malang 65144, Indonesia; yulyethah@gmail.com (Y.K.P.H.); shanty@umm.ac.id (S.K.D.)
[2] Industrial Engineering Department, University of Panca Marga, Probolinggo 67271, Indonesia; dwiiryaning@upm.ac.id
[*] Correspondence: masudin@umm.ac.id (I.M.); restuputri@umm.ac.id (D.P.R.)

Abstract: *Background*: The success of e-commerce cannot be separated from a good delivery experience. Meanwhile, research that discusses the quality of logistics services that serve e-commerce by comparing the quality of its competitors in Indonesia is still little discussed. The case study in this research is two logistic service providers in Indonesia. *Methods*: This study uses the integration of the SIPA method and Kano Modification. Both SIPA and Kano can determine priority and effective strategies to improve service quality. *Results*: The use of SIPA can identify the importance of service attributes and compare the performance of the two logistics services. A dynamic cycle of service attributes encourages using Kano Modification in this study to expand opportunities for determining managerial strategies. *Conclusions*: The results in this study provide insight into the main strategies that must be carried out on attributes considered important and maintain quality to be superior to competitors.

Keywords: logistics service; SIPA grid; Modified-Kano; service attribute

1. Introduction

Are logistics service providers responsible for customer satisfaction and the success of online shopping? Along with the fast growth of technology, Indonesia is the first country with the largest number of online shopping users worldwide [1]. Logistics in e-commerce consists of several activities [2]. First, the customer selects their order and then gets confirmation about the payment method and which logistics service providers will be chosen. Then, the online store will process the order and be picked up by the logistics staff. Finally, the package is sent to the customer. Therefore, it can be concluded that merchants and e-commerce entrust their delivery process of goods to logistics service providers. Therefore, logistics service providers play a vital role in e-commerce regarding all activities related to the transfer of products, such as how long the order will be processed and how its condition is when received by the customer.

While logistics play a vital role in e-commerce [3], customers expressed several problems related to logistic service. The problems such as the volume of products sent that do not match the quantity ordered, incorrect delivery times, packaging damage, unfriendly service, incompetent and unreliable delivery staff, order tracking problems, and missing or damaged [3,4]. Customers are cautious about making wrong purchases [5]. They will be satisfied if they get a product or service that meets their expectations and disappointed if what is expected is not fulfilled [6]. Therefore, logistics service providers must pay attention to the quality of customer service.

Several studies have discussed the relationship between logistics services and the level of customer satisfaction when shopping online [7,8]. Research that examines logistics in e-commerce, such as Hua and Jing [7], which researches the relationship of logistics service

quality (LSQ) to customer satisfaction, Skurpel [2], examines logistics services which are factors that affect customer loyalty in e-commerce. Meanwhile, research that discusses the quality of logistics services in e-commerce and compares the company's performance with its competitors is still rare. This study presents research on the quality of logistics services compared with other company. It will help determine the strategy for management. This study also considers the possibility of the attribute life cycle through Modified Kano. The SIPA method adds a third dimension, namely the performance assessment of the competitors instead of IPA, which only assesses its company's importance and performance. While Modified Kano possibly categorized quality attributes into main factors. The factors that are categorized as Indifferent, Reverse, and Questionable in Kano traditional might be changed to attractive factors (A), satisfaction factors (must-be), and expected factors (one-dimensional) [9]. According to Lofgren [10] there are three life cycles of the quality attribute, successful life cycle, flavor-of-the-month, and stable cycle. In a successful life cycle, attributes will move from indifferent to attractive, then be One Dimensional, and end with Must Be. Therefore, customer responses would be more widely accommodated.

This article is organized into four sections. First is the theoretical background about logistic service quality and problems usually found in online shopping related to logistics. Then, we determined the research instrument and design based on the attributes of logistics in previous studies. Third, the result for logistic service providers contained the classification of each attribute. Finally, there is conclusions and managerial implications to help management meet customers' need and compete with the competitor.

2. Theoretical Background

2.1. Quality of Logistics Service/Logistics Service Quality (LSQ) Service

Quality is the result of evaluating customer responses by comparing expectations with the actual performance [11]. Previous research said that the LSQ is only determined by assessing service attributes based on the point of view of the service provider and eliminates the assessment based on customer opinions. Taylor [12] revealed that some researchers think LSQ would be more comprehensive if added to how the customer feels about service quality. Customer feelings towards the LSQ are derived from interactions with logistics service providers during the customer interface process [12]. For example, a bad experience during the order delivery process can affect the customer's shopping experience [4].

According to Mentzer, Gomes, and Krapfel [13], delivery services have two aspects, namely service to customers (Customer service) and aspects of Physical Distribution Service (PDS). The dimensions of B2C (business to customer) consist of three things: product availability, on-time delivery between sellers and buyers, and the physical quality of distribution services [14]. When measuring the LSQ, an assessment of 9 concepts is used, namely the quality of personal contact, the number of order quantities, quality of information, ordering procedures, order conditions, order accuracy, handling of non-conformance orders, and timeliness [15]. Meanwhile, according to Bienstock et al. [16] LSQ dimensions consist of the quality of employee contact, ordering procedures, effectiveness and ease of obtaining information, the ability of suppliers to handle different products, order accuracy, and product availability, and order conditions. According to Liu and Liu [17] assessed logistics services using the Servqual method, which consisted of reliability, protection, security, empathy, and customer response. However, there is no definite agreement from researchers regarding the definition of logistics service quality and the dimensions used, so there are many differences regarding the dimensions and attributes of the LSQ. Some studies also use the Servqual Method to determine expected and received service [18]. This method uses five dimensions: tangibles, reliability, responsiveness, assurance, and empathy. Meanwhile, according to Sorkun [19], LSQ consists of two main aspects, namely, operational and relational [20].

2.2. The SIPA Method

The IPA method was introduced by Burns [21], then re-examined by Chen and Chen [22] where this method complements the shortcomings of the IPA method. The SIPA method includes a competitor's performance. According to Burns [21], the use of the IPA does not consider the level of performance provided by competing companies. The best way to assess a company's performance is to compare it with other companies/brands [21] and prevent thinking that the company only focuses on itself while in actual conditions, they have been defeated by competitors [23].

The first dimension in the SIPA method is the level of importance. The level of importance is determined to evaluate customer responses regarding how important a service attribute is. The average importance of each attribute is calculated to determine the position of the service attribute [24]. The second dimension in the SIPA method is the level of the performance company. The level of performance is a consumer's assessment of the performance of service attributes provided by the Company [25]. The third dimension is the performance appraisal of competing companies [21]. The average value of importance and performance is the intersection point between attributes with "High" and "Low" importance, as well as the performance of attributes categorized as "Good" and "Poor" [21]. Results of SIPA further split into eight classifications of service attributes, namely:

1.   The missed opportunities (Neglected Opportunity)

Attributes in this category are highly important, but the company and its competitors provide poor performance. Therefore, this is an opportunity to satisfy customers by improving the company's performance.

2.   Competitive losses (Competitive Disadvantage)

In this category, attributes are important to customers, but the competitors' performance is better than the vocal company. This condition is a loss and must become prioritized to improve these attributes.

3.   Competitive advantage (Competitive Advantage)

The company has a competitive advantage when customers consider that the company's performance is better than a competitor in an important attribute.

4.   Equal competition (Head-to-head Competition)

On an attribute that is considered important, both the company and its competitors provide good performance. Therefore, companies should not ignore this service attribute.

5.   No opportunity (Null Opportunity)

The company and competitors do not provide good performance on attributes that customers do not consider necessary. Therefore, companies do not need to improve services on this attribute because it will not provide an advantage to compete.

6.   False alert (False Alarm)

When a competitor has a better performance on attributes that customers consider unimportant. The company does not need to improve its performance because the increase in service on this attribute will not affect the purchase.

7.   Benefits false (False Advantage)

In the service attributes that are not important, the company has a better performance than the company's competitors. This means that the company spends more resources than needed.

8.   Competition false (False Competition)

The company and its competitors have a good performance on attributes judged to be important to the customer. Therefore, companies should not spend their resources because it will not affect sales.

The classification of SIPA categories is shown in Table 1.

Table 1. Classification of SIPA Strategies and IPA Grids.

Levels of the Importance of Attributes	Performance Attributes in Companies	Attributes Performance in Competing Companies	SIPA Strategy
High	Good	Good	(1) Head to Head Competition (K)
		Bad	(2) Competitive Advantage
	Bad	Good	(3) Competitive Disadvantage (P)
		Bad	(4) Neglected Opportunity (P)
Low	Good	Good	(5) False Competition
		Bad	(6) False Advantage
	Bad	Good	(7) False Alarm
		Bad	(8) Null Opportunity

Note: P represents "Prioritizing attribute quality improvement", and K is "Maintaining awareness of attributes".
Source: (Chen and Chen, 2015).

2.3. Modified-Kano Method

Kim [9] developed the model based on modifications of the Kano model aims to identify categories of Kano that are not included in the main category. The main categories of the Kano Model are Attractive, One-Dimensional and Must-Be. Meanwhile, Indifferent, Reverse, and Questionable are the opposite and should not be prioritized for improvement. Modified-Kano allows the categories to be grouped into the main categories so that customer responses can be accommodated more largely. Each question on Kano's attributes consists of two dimensions. The first is a functional question to assist customers' feelings when the service provider has fulfilled the service attributes. On the other hand, the second question is dysfunctional: how do customers feel if a service attribute is not fulfilled [26]. Kano divides services into six types according to their needs, namely:

1. Must-Be

In this criterion, the customer will feel disappointed if a service attribute is not fulfilled. This attribute is only a requirement so that customers are not disappointed but will not increase customer satisfaction.

2. One-dimensional

In this category, the fulfillment of service attributes is proportional to customer satisfaction. The more these attributes can be fulfilled, customer satisfaction will increase. Conversely, the more this attribute is not fulfilled, the more disappointed the customer is.

3. Attractive

The service attribute in this category has the most influence on customer satisfaction. This attribute is not clearly expressed as a customer's desire, but it will give great satisfaction if the attribute is fulfilled. Even if this attribute is not fulfilled, it does not cause a sense of disappointment.

4. Indifferent

In this category, a service attribute does not affect customer satisfaction even though this attribute is fulfilled or not.

5. Reverse

Attribute services in this category provide dissatisfaction if fulfilled. If this attribute is fulfilled, it will result in the sense of disappointment.

6. Questionable

Customer's judgments regarding the attributes in this category are still in doubt. So, it cannot be categorized into other categories.

In conventional Kano, most quality characteristics are classified as indifferent factors. However, in the Modified-Kano Model, non-primary quality attributes are probably categorized into main factor categories such as attractive factors (Attractive), essential factors (Must-be), and factors that are expected (One-dimensional) [9]. This is quite interesting because companies can see different reactions to the categorization. Therefore, companies can consider this attribute an important factor and make the necessary changes to improve service quality. Kano and Modified-Kano evaluation are shown in Tables 2 and 3.

Table 2. Evaluation of traditional Kano.

Customer Needs		Dysfunctional				
		1. Like	2. Must	3. Neutral	4. Accept it	5. Dislike
Functional	Dislike 1. Like	Q	A	A	A	O
	2. Must	R	I	I	I	M
	3. Neutral	R	I	I	I	M
	4. Can accept it	R	I	I	I	M
	5. Dislike	R	R	R	R	Q

Source: (Kano, 1984).

Table 3. Evaluation of Modified-Kano model.

Customer Needs		Dysfunctional				
		1. Like	2. Must	3. Neutral	4. Accept it	5.Dislike
Functional	Dislike 1. Like	Q	A	A	A	O
	2. Must	R	A	A	O	M
	3. Neutral	R	I	I	M	M
	4. Can accept it	R	I	I	I	M
	5. Dislike	R	R	R	I	Q

Source: (Kim, 2012).

The categories that have changed in the Modified-Kano Method are:

1. Indifferent (I) becomes Attractive (A), that is when in functional questions, customers judge that the attribute must exist "must". In the dysfunctional questions, the answer is must not exist "must", and if in functional questions, the answer is must be present "must" while dysfunctional is "neutral".
2. Indifferent (I) becomes One-dimensional (O), that is if at the functional question, the answer is "Must" while dysfunctional is "accept it".
3. Indifferent (I) becomes Must-Be (M) that the functional customers answer "neutral" while in dysfunctional "can accept it".
4. The Reverse (R) becomes Indifferent (I). If in the function, the answer is "does not like it" while dysfunctional is "can accept it".

After determining the attribute classification based on customer ratings, it determines the category of each attribute. For example, if (O + A + M) > (I + R), then the category is max (O, A, M); otherwise, it is categorized as max (I, R) [20]. According to Walden [27] the customer satisfaction coefficient or customer satisfaction coefficient (CS) is calculated by the number of service attribute categories, which are attractive and one-dimensional. It is divided by the number of attributes categorized as attractive, one-dimensional, must-be, and indifferent.

Customers Satisfaction Level (CS1):

$$(A + O)/(A + O + M + I) \tag{1}$$

Customers Disatisfaction Level (CS2):

$$-(O + M)/((A + O + M + I)) \tag{2}$$

The minus sign on the level of dissatisfaction (Equation (2)) is the effect of consumer dissatisfaction if the quality of the attribute is not met. The CS (1) coefficient impacts increasing consumer satisfaction, while CS (2) impacts increasing consumer dissatisfaction. A comparison of CS (1) and CS (2) in a coefficient map allows service attributes to be categorized into four quadrants based on the average value of CS (1) and CS (2). For example, the 'Effective Improving Area' will categorize service attributes with high CS (1) and CS (2) values.

3. Research Method

The Modified-Kano Method was chosen because it focuses more on the classification of service attributes that significantly affect customer satisfaction than Traditional Kano. This is in line with Kim [28], which states that the Modified-Kano method can broadly accommodate responses in 3 main categories: Attractive, One-dimensional, and Must-be. Noriaki [29], states that there is a cycle in which a service attribute will be judged as not affecting the customer (indifferent). After progressing to the introduction stage, it becomes interesting and may bring enormous satisfaction (Attractive). As the cycle changes, it will become a service assessed as One-dimensional, where the more fulfilled this attribute, the more satisfied the customer. The last one becomes Must-be, which means the attribute must be fulfilled by the service provider so that the customer feels satisfied. This cycle is called the dynamic cycle of the service attribute. This is relevant to a study by Tax [30], which indicates a cycle in service attributes from Indifferent to Must-be and changes in time. These are alternative strategies to perform changes with customers' new ideas about service in the life cycle. Thus, management can prepare the right strategy according to the estimated time the service will spend one cycle up to the last phase.

3.1. Research Instruments

This study uses Logistic Service Quality (LSQ) dimensions research. The service attributes used in this study were sourced from several previous studies that discussed Logistic Service Quality [15,31,32]. This study uses five dimensions namely, Quality of Information (KI), Accuracy of Orders (KP), Timeliness of Delivery (KW), Quality of Personal Contacts (KK), and Handling of Order Mismatches (PK).

The questionnaire included 14 indicator items. The preliminary test was carried out before the formal questionnaire was distributed to ensure the validity and reliability of service attributes. This initial test was conducted on 30 respondents who use The X's and Y's for the delivery process while using Shopee as their marketplace. Based on validity and reliability testing, all items are valid and reliable, as presented in Tables 4 and 5.

Table 4. Validity test results of preliminary questionnaire SIPA Modified-Kano.

No	Items	Indicator Items	R-Count Importance	R-Count Company's Performance	R-Count Competitor's Performance	Functional	Dysfunctional	R-Table	Conclusion
				Information quality(K1)					
1.	K11	Information provided about time in service is appropriate and correct.	0.466	0.745	0.749	0.799	0.539	0.361	Valid
2.	K12	shipping information is appropriate and accurate.	0.754	0.705	0.656	0.661	0.963	0.361	Valid
				Order Accuracy (KP)					
3.	KP1	Items are shipped accordance with the ordered products	0.579	0.659	0.484	0.557	0.932	0.361	Valid
4.	KP2	Send several goods following the order.	0.516	0.667	0.601	0.533	0.915	0.361	Valid
				Timeliness of Delivery (KW)					
5.	KW1	Product ordered, shipped, and received quickly.	0.792	0.776	0.603	0.663	0.951	0.361	Valid
6.	KW2	Product ordered sent within the time promised.	0.8140.954		0.803	0.575	0.82	0.361	Valid
				Personal Contact Quality (KK)					
7.	KK1	Having friendly delivery staff providing services to customers	0.766	0.857	0.731	0.77	0.932	0.361	Valid
8.	KK2	delivery Staff dressed neatly	0.508	0.671	0.57	0.498	0.857	0.361	Valid
9.	KK3	Delivery staff have knowledge and information about the products shipped	0.723	0.762	0.531	0.621	0.799	0.361	Valid
10.	KK4	Delivery Staff understands how the handling goods safely.	0.443		0.577	0.533	0.948	0.361	Valid
				Order Handling Incompatibility (PK)					
11.	PK1	Availability of deliveries information	0.619	0.734	0.765	0.629	0.916	0.361	Valid
12.	PK2	Provide information to customers if there is a late delivery	0.569	0.611	0.683	0.817	0.891	0.361	Valid
13.	PK3	Existence of contact person which receiving customers complaint	0.718	0.46	0.828	0.516	0.905	0.361	Valid
14.	PK4	Quick response to delivery problems	0.969	0.741	0.82	0.747	0.637	0.361	Valid

Table 5. Initial Questionnaire Reliability Test Results SIPA Modified-Kano.

No.	Assessment Aspect	Cronbach's Alpha Value	Critical Value	Conclusion
1	Interest	0.884	0.7	Reliable
2	Company's performance	0.91	0.7	Reliable
3	Competitor's performance	0.887	0.7	Reliable
4	Functional	0.898	0.7	Reliable
5	Dysfunctional	0.989	0.7	Reliable

Based on Table 4, It can be concluded that all the respondents' answers in SIPA and the Modified-Kano Questionnaire are valid because every item has a value of R-count bigger than the R-table value. Then, after all items are valid, the questionnaires are tested in a reliability test using SPSS.

Table 5 presented that all the assessments of the questionnaires are reliable because each value of Cronbach's Alpha in all assessments are above 0.7. It means that all the questionnaires are highly reliable [33].

3.2. Questionnaire Formal Design

The first stage of designing questionnaires in this study consists of the screening question of whether the respondent is a user of the selected e-commerce logistics provider X and Y delivery services to send their products. Respondents who answered "Yes" will be directed to the next section. In the second part, there are questions about the identity and characteristics of the respondents, namely the latest education, occupation, age, and frequency of product delivery using the X company and its competitor. In the third part, questions measure the importance of the 14 service attributes according to the respondents, from "very unimportant" to "very important," using 5 Likert scales (See Appendix A). The fourth part is a functional and dysfunctional question of the 14 service attributes. Finally, in the last section, we use 5 Likert scales to measure the performance of the X company and competitors on 14 service attributes from "very bad" to "very good". For both preliminary and formal tests, respondents that filled this questionnaire have two requirements. First, they must be the user of Shopee (Indonesian e-commerce) and use both X and Y services to deliver their ordered product. Based on Hair et al. [34], the number of samples in the multivariate is at least 5 to 10 times the number of the parameters. Although there are many different perspectives in determining the number of research samples, this study uses a minimum sample of 5 × 14 = 60. Data were collected online using Google Forms and asked about people's perceptions of quality logistic attributes in online shopping.

3.3. The Use of Integration SIPA Modified-Kano to Determine Priority Attributes

The selection of service attributes prioritized for improvement can be seen from the SIPA strategy by considering the results of the Modified-Kano. This is in line with the study by Chen and Chen [35], which states that attributes with the Priority Improving Attributes and Effective Improving Attributes are the main priorities that must be improved. Additionally, other attributes categorized as attractive (Attractive) factors in the Modified-Kano should be considered to reach customer satisfaction in large amounts. Oey [23] also stated that the attributes that need to be prioritized to improve their quality are those that are categorized as "Key improving attributes" and "Priority improving attributes".

4. Result and Discussion

4.1. Demographic Profile of Respondents

Based on 79 respondents' answers, it was found that most respondents were aged 23–31 years (61%) with the last education level of Senior High School (57%). Furthermore, the frequency of delivery of goods at most is more than 20 times (37%). Furthermore, the number of respondents is sellers (52%) and buyers (48%).

4.2. Validity and Reliability

Based on testing the validity of the questionnaire Kano (see Table 6.), all respondents declared that all the questionnaires are valid because each item has a "Counted R value" more than the "R table value". After the questionnaire is valid (see Table 6), the formal questionnaire reliability test uses the software SPSS (see Table 7). Reliability testing using the value of Cronbach's alpha on five dimensions assessed by respondents based on the level of importance, performance, functional, and dysfunctional questions. In each aspect of the assessment, it was found that all aspects had a Cronbach's Alpha value above 0.70, so it can be concluded that the questionnaire used in this study had a high level of reliability [33].

Table 6. Validity test results of formal questionnaire SIPA Modified-Kano.

No	Items	Indicators	Counted R-Value of Importance	Counted R-Value of the Formal Company's Performance	Counted R-Value of Competitor's Performance	Counted R-Value of Functional	Counted R-Value of Dysfunctional	R Table	Description
				Information Quality(K1)					
1.	K11	The information provided regarding time in service is appropriate and correct.	0.633	0.759	0.749	0.662	0.857	0.186	Valid
2.	K12	Delivery information is appropriate and accurate.	0.563	0.741	0.785	0.778	0.922	0.186	Valid
				Order Accuracy (KP)					
3.	KP1	The product delivered corresponds to the product ordered	0.39	0.709	0.763	0.672	0.92	0.186	Valid
4.	KP2	Send the number of goods in accordance with the order.	0.541	0.67	0.726	0.695	0.928	0.186	Valid
				Timeliness of Delivery (KW)					
5.	KW1	Products are ordered, shipped, and received quickly.	0.778	0.807	0.771	0.786	0.886	0.186	Valid
6.	KW2	Products ordered are delivered following the promised time.	0.761	0.814	0.806	0.773	0.868	0.186	Valid
				Personal Contact Quality (KK)					
7.	KK1	Have friendly delivery staff when providing service to customers	0.677	0.738	0.777	0.778	0.91	0.186	Valid
8.	KK2	Delivery staff with neat appearance	0.433	0.77	0.754	0.744	0.763	0.186	Valid
9.	KK3	Delivery staff have knowledge and information about the product being shipped	0.593	0.749	0.775	0.716	0.841	0.186	Valid
10.	KK4	The delivery staff understands how to handle goods safely.	0.802	0.721	0.747	0.831	0.93	0.186	Valid
				Order Handling Incompatibility (PK)					
11.	PK1	Availability of information on product delivery status of	0.623	0.83	0.776	0.686	0.917	0.186	Valid
12.	PK2	Provide information when there is a delay in delivery to customers	0.684	0.785	0.745	0.743	0.887	0.186	Valid
13.	PK3	There are contacts who receive complaints from customers	0.742	0.72	0.647	0.759	0.914	0.186	Valid
14.	PK4	Respond quickly in responding to problems in shipping orders.	0.802	0.815	0.797	0.868	0.922	0.186	Valid

Table 7. Reliability results of the formal questionnaire using SIPA Modified-Kano.

No	Aspect Assessed	Cronbach's Alpha Value	Critical Value	Conclusion
1	Interest	0.885	0.7	Reliable
2	The Formal Company's performance	0.942	0.7	Reliable
3	The Competitor's performance	0.941	0.7	Reliable
4	Functional	0.934	0.7	Reliable
5	Dysfunctional	0.98	0.7	Reliable

4.3. Classification of Service Attributes Using Customer Satisfaction Coefficient

The coefficient CS (1) has an impact on increasing consumer satisfaction, whereas CS (2) has an impact on expanding consumer dissatisfaction [36] A comparison of CS (1) and CS (2) in a coefficient map allows service attributes to be categorized into 4 quadrants based on the average value of CS (1) and CS (2). Service attributes with high CS (1) and CS (2) values will be categorized in the 'Effective Improving Area'. The classification is presented in Table 8.

Table 8. Coefficient customer satisfaction.

Service Attributes	A	O	M	I	R	Q	Category	CS (1)	CS (2)
K11. The information provided regarding time in service is appropriate and correct.	24%	61%	9%	0%	1%	5%	O	0.91	−0.74
K12. Delivery information is appropriate and accurate.	28%	62%	8%	1%	0%	1%	O	0.91	−0.71
KP1. The product delivered corresponds to the product ordered	24%	68%	4%	1%	0%	3%	O	0.95	−0.74
KP2. Send the number of goods following the order.	25%	66%	5%	0%	1%	3%	O	0.95	−0.74
KW1. Products ordered, shipped, and received quickly.	39%	53%	4%	3%	0%	1%	O	0.94	−0.58
KW2. Products ordered are delivered in accordance with the promised time.	41%	56%	1%	1%	0%	1%	O	0.97	−0.58
KK1. Have friendly delivery staff when providing service to customers	37%	54%	8%	0%	0%	1%	O	0.92	−0.63
KK2. Delivery staff with neat appearance	61%	24%	10%	5%	0%	0%	A	0.85	−0.34
KK3. Delivery staff have knowledge and information about the product being shipped	48%	37%	9%	3%	0%	4%	A	0.88	−0.47
KK4. Delivery staff understands how to handle goods safely.	25%	63%	10%	1%	0%	0%	O	0.89	−0.73
PK1. Availability of information on product delivery status of	28%	67%	3%	1%	0%	1%	O	0.96	−0.71
PK2. Provide information when there is a delay in delivery to customers	37%	51%	5%	5%	0%	3%	O	0.90	−0.57
PK3. There are contacts who receive complaints from customers	23%	63%	10%	1%	0%	3%	O	0.88	−0.75
PK4. Respond quickly in responding to problems in shipping orders.	27%	59%	9%	4%	0%	1%	O	0.87	−0.69

CS coefficient map (See Figure 1) is based on the placement of service attributes based on the results of CS (1) and CS (2) calculations on Modified-Kano. The overall mean value for CS (1) and CS (2) is a point (−0.64, 0.91) and is the midpoint of this map. For example, service attribute 'KK1-Has friendly delivery staff', 'KW1-Products ordered, delivered and received quickly', and 'KW2- Products ordered are delivered on time as promised' are in Quadrant 1. Attributes in this quadrant are said to be the most effective efforts to increase customer satisfaction, which considerably influence consumers on the functional and dysfunctional dimensions. This attribute gives consumers pleasure if it is successfully fulfilled and gives excellent disappointment if it is not fulfilled.
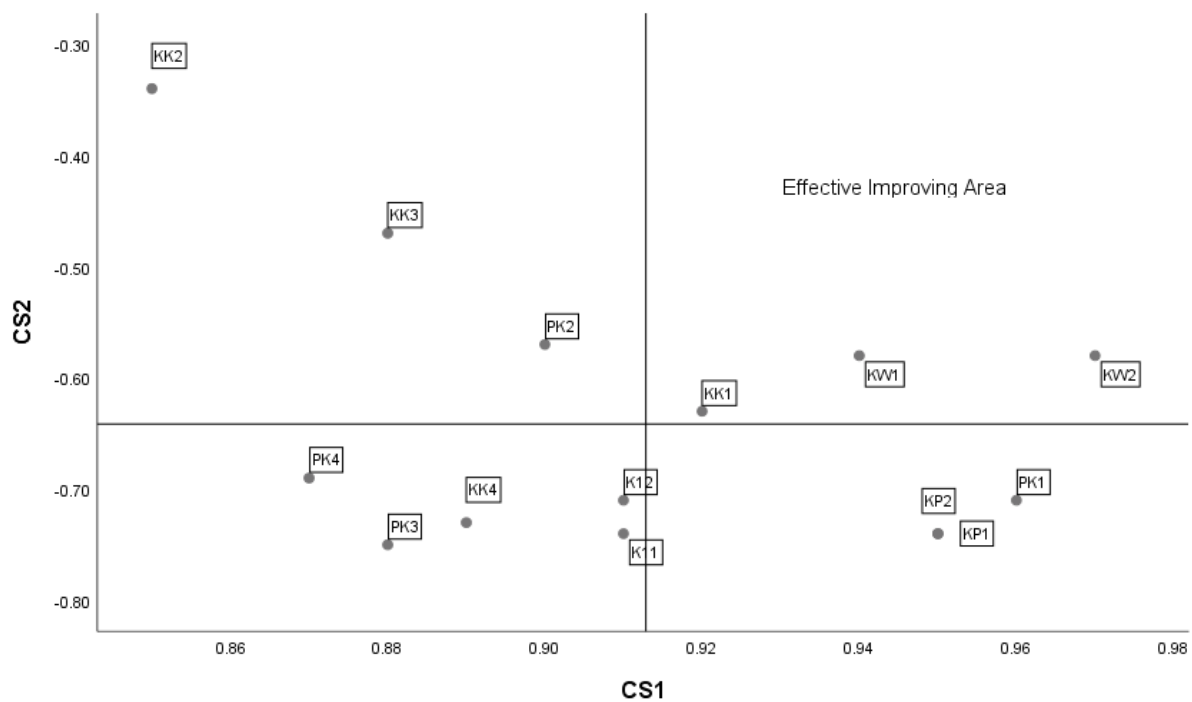
Figure 1. The map of cs coefficients on logistics service attributes.

The results of data processing using the SIPA method (See Table 9) based on the answers from 79 respondents showed that the overall average value of the importance level was 4.55, and the performance was 3.96 for each attribute. This average value is the intersection point between attributes with "High" and "Low" importance, as well as the performance of attributes categorized as "Good" and "Poor" [35]. For example, the service attribute 'PK1- Availability of product delivery status information' is the most important service attribute with an average importance score of 4.80, while the attribute 'KK3- Delivery staff has knowledge and information about the product sent' is the least important attribute, with an average score of 3.91. Therefore, this study found that the overall average value of the service attribute performance of the X company and the competitor was 3.96.

Table 9. The average value of importance level and service attribute performance.

Atribut	Level of Importance	The X Company's Performance	The Competitor's Performance
K11. The information provided regarding time in service is appropriate and correct.	4.66	3.84	4.28
K12. Delivery information is appropriate and accurate.	4.65	3.87	4.32
KP1. The product delivered corresponds to the product ordered	4.75	4.3	4.44
KP2. Send the number of goods following the order.	4.77	4.37	4.46
KW1. Products are ordered, shipped, and received quickly.	4.58	3.7	4.35

Table 9. *Cont.*

Atribut	Level of Importance	The X Company's Performance	The Competitor's Performance
KW2. Products ordered are delivered following the promised time.	4.62	3.77	4.27
KK1. Having friendly delivery staff when providing services to customers	4.49	3.8	4.15
KK2. Delivery staff with a neat appearance	3.96	3.86	3.94
KK3. The delivery staff has knowledge and information about the delivered product	3.91	3.66	3.8
KK4. The delivery staff understands how to handle goods safely.	4.66	3.86	3.95
PK1. Availability of product delivery status information	4.8	3.94	4.19
PK2. Provide information when there is a delay in delivery to customers	4.57	3.43	3.67
PK3. Some contacts receive complaints from customers	4.58	3.58	3.77
PK4. Respond quickly in responding to problems in shipping orders.	4.66	3.59	3.78
Mean Value	4.55	3.96	

Figure 2 is a visualization of the results of the SIPA analysis using a radar chart. The blue line shows the importance of service attributes, while the other two lines represent the performance of the X company and the competitor. The radar chart shows that the two logistics service performances at Shopee, both of the X company and the competitor, still do not meet customer satisfaction. However, customers also judge the competitor's performance in all attributes as better than the X company. This proves that the X company should take action to increase its logistic service to meet the customers' needs. Based on Melia, Mudjiardjo, and Agustina [37], in a high level of competition, the company requires to manage the various resources they have to win the competition and create a competitive advantage.

Figure 2. Visualization of SIPA analysis.

In the Modified-Kano method, all answers from 79 respondents on the functional and dysfunctional question attributes are used to determine the category of each service attribute into six categories, namely Attractive (A), One-Dimensional (O), Must-Be (M), Indifferent (I), Reverse (R), and Questionable (Q) for the classification of its category

is presented in Table 10. In this study, 12 service attributes were categorized as 'One-Dimensional (O)', while the other two attributes, namely KK2 and KK3 were categorized as 'Attractive (A)' (See Table 10).

Table 10. Grouping of service attributes using SIPA Modified-Kano.

| Attributes | Importance | Performance | | SIPA's Category | Strategy Adjustment | Attributes Classification | |
		The X Company	The Competitor			Kano's Categories	Effective Improving Attribute
K11. The information provided regarding time in service is appropriate and correct	High	Poor	Good	Competitive Disadvantage	Priority Improving Attribute	O	
K12. Delivery information is appropriate and accurate.	High	Poor	Good	Competitive Disadvantage	Priority Improving Attribute	O	
KP1. The product sent is following the product ordered.	High	Good	Good	Head-to-head competition	Keeping Alert Attribute	O	
KP2. Send the number of goods following the order.	High	Good	Good	Head-to-head competition	Keeping Alert Attribute	O	
KW1. Products ordered, shipped, and received quickly.	High	Poor	Good	Competitive Disadvantage	Priority Improving Attribute	O	Yes
KW2. Products ordered are delivered following the promised time.	High	Poor	Good	Competitive Disadvantage	Priority Improving Attribute	O	Yes
KK1. Have friendly delivery staff when providing service to customers	Low	Poor	Good	False Alarm		O	Yes
KK2. Delivery staff with a neat appearance	Low	Poor	Poor	Null Opportunity		A	
KK3. Delivery staff have knowledge and information about the product being shipped	Low	Poor	Poor	Null Opportunity		A	
KK4. The delivery staff understands how to handle goods safely.	High	Poor	Poor	Neglected Opportunity	Priority Improving Attribute	O	
PK1. Availability of information on product delivery status	High	Poor	Good	Competitive Disadvantage	Priority Improving Attribute	O	
PK2. Provide information when there is a delay in delivery to customers	High	Poor	Poor	Neglected Opportunity	Priority Improving Attribute	O	
PK3. Some contacts receive complaints from customers	High	Poor	Poor	Neglected Opportunity	Priority Improving Attribute	O	
PK4. Respond quickly in responding to problems in shipping orders.	High	Poor	Poor	Neglected Opportunity	Priority Improving Attribute	O	

The integration of SIPA with Modified-Kano produces deeper insights regarding the service quality of the company under study. A SIPA Grid is used to determine service attributes that are priorities for improvement or what is known as 'Priority Improving Attributes' and service attributes that need to be maintained, namely 'Keep Alert Attribute'. While Modified-Kano translates the results of answers to functional and dysfunctional questions through the CS Grid to determine service attributes in effective improvement, namely 'Effective Improving Area'. Suppose the attributes include 'Priority Improving Attribute' in SIPA and 'Effective Improving Area' in Modified-Kano. It will become a key attribute or 'Key Improving Attributes' that must be prioritized to improve quality [23].

4.4. Service Attributes That Are Priority Improving Attributes in SIPA Strategy Formulation

The SIPA method results show that the X company service attributes that become priority improving areas are the quick sending of ordered products, time-based products, and the appropriate information provided. It is followed by the accuracy of shipping, product handling, delivery status information, and information on delivery delays. Finally, the rest of the attributes are about the contacts of customer complaints and the quick response in-order.

In SIPA, the service attributes of information provided regarding time in service are appropriate and correct (KI1) (O). Moreover, the attribute of shipping information is appropriate and accurate (KI2) (O). The attribute of products ordered, shipped, and received quickly (KW1) is included in O. Finally, the attribute of the ordered product that was delivered on time (KW2) is also categorized in O (one-dimensional) as well as a competitive disadvantage. This shows that these attributes are considered essential for customers, but the performance provided by the competitor is better than the X company. Based on the results of the Modified-Kano attribute, it is categorized as "One-dimensional", where the increase in customer satisfaction is directly proportional to the fulfillment of the quality of this service attribute. If the performance of this attribute does not meet the wishes, it will disappoint the customer [26]. These results support the study by Ho et al. [32], where the quality of information strongly influences customer satisfaction with delivery services. It is also relevant to the research by Restuputri, Indriani, and Masudin [38]. They found that logistics service providers need to improve their information systems so customers can access the goods tracking systems quickly and appropriately. The X company has a lower performance than the competitors on these attributes, as a result the X company must improve this attribute immediately. Researchers suggest that the X company provides services following the information provided, such as the suitability of service hours and working days. In addition, it also accelerates the delivery of goods by increasing distribution points throughout Indonesia. Improvements to this attribute will be an effort to prevent customers from continuously switching to the competitor. In contrast to the research conducted by Prasetyo [39], which states that the "Information Quality" at the X company is higher than the competitors. The results may be due to differences in research respondents and the methods used, namely the ANOVA test.

The availability of product delivery status information (O) is also a competitive disadvantage. This shows that these attributes are considered important, but the competitor performs better. This attribute is also classified as "One-dimensional", which means that the more the quality of this service attribute is fulfilled, the more satisfied customers will be with the services provided. To make improvements, researchers suggest that the X company further optimize its tracking system so that activities can be more in line with real-time and send messages automatically to recipients if the courier approaches the intended address. Improvements to this attribute can prevent customers from constantly switching to the competitor. This is different from Ilhamsyah, Ginting, and Setiawan [40], which state that information tracking negatively affects customer satisfaction.

The following attributes included as priority improving attributes are products that are ordered, sent, and received quickly (O). Moreover, the other attributes are providing information when there is a delay in delivery to customers (O) and the contacts who receive complaints from customers (O). It is followed by a quick response to problems in-order delivery (O). These attributes are categorized as neglected opportunities in SIPA. This means that customers consider these attributes' importance high, while the X company and the competitor provide poor performance. Therefore, improvements in the quality of these attributes can be an opportunity for the X company to achieve customer satisfaction who are not satisfied with the quality provided by the X company and the competitor at this time.

4.5. Service Attributes That Are Improving Key Attributes in SIPA Strategy

Service attributes are identified as vital improving attributes, such as products ordered, sent, and received quickly and the time accuracy of delivery. Both are service attributes in the same dimension, namely delivery timeliness, and are categorized as a priority improving attributes in SIPA. They are also categorized as effective improving attributes on Modified-Kano. Thus, it becomes an attribute that must always be considered for quality by the X company to remain competitive with the competitor. On-time delivery is an important attribute for customers. This is in line with research by Ilhamsyah, Ginting, and Setiawan [40] which states that delivery timeliness has a positive and significant effect on the X company user satisfaction. The time required for the X company and the competitor to deliver goods is the same. The delivery duration is 2–7 days after the package is handed over to the courier. Researchers suggest that the X company speed up order processing times, such as speeding up branch offices' sorting and transit processes.

Having friendly delivery staff when providing services to customers is the following attribute that becomes a key improving attribute. Because it lies in effective improving attributes, the X company must maintain quality to remain competitive with the competitor. This is under the research of Purnama, Masdaini, and Cahyani [41], which explains that the friendliness of the X company's staff significantly affects customer satisfaction. At the X company itself, it has required officers to greet and be friendly to customers. Researchers suggest that delivery staff follow this rule during direct contact with customers.

4.6. Service Attributes That Are Categorized as Competitive Disadvantage in SIPA

Service attributes that allow for further priority is "Information provided regarding time in service is appropriate and correct (K11)", "Shipping information is appropriate and accurate (K12) (O)", and "Product ordered, sent, and received quickly (KW1) (O)", and "The product ordered was delivered on time (KW2) (O)". These attributes are categorized as "Competitive Disadvantage" in SIPA. These results indicate that the four attributes are considered important by customers, but the competitors' performance on these attributes is better than the performance of the X company. In addition, determining the priority of attributes that need to be improved appropriately can refer to the category Modified-Kano. Moreover, the appropriate information regarding time in service, the shipping accuracy, and timely product shipped and received are categorized as one-dimensional. This shows that these attributes are directly related to customer satisfaction. The better the performance was given to this attribute, the higher the customer satisfaction, and vice versa [26].

Information related to service time includes information on operational time and operating hours. The operational hours at the X company branch office are based on the information provided. Furthermore, customers expect that the information is correct with the actual service. This is not following Prasetyo [39], which states that the quality of information on the X company is better than the competitors. According to the information, researchers suggest that the X company's staff adhere to working hours and days.

The attribute "Shipping information is appropriate and accurate (K12) (O)" is included with information related to product delivery, both those that will be processed on the same day or those that will be processed the next day. In the information provided, the X company sets a maximum time limit for orders sent by customers to be picked up on the same day at 4.59 p.m. If more than that, they will be picked up the next day. Based on the Modified-Kano's category, these attributes are categorized as one-dimensional. The delivery information will satisfy the customer if it follows the actual service. Therefore, the X company must, as much as possible, pick up according to the delivery schedule information.

The attribute of products ordered, shipped, and received quickly is also in the one-dimensional category. This means that this attribute is important to the customer, and if this attribute is fulfilled, it makes the customer feel satisfied. These attributes are included in the competitive disadvantage in SIPA, so customers consider them essential, but the competitor provides better performance than the X company. Therefore, researchers suggest the X

company speed up the product delivery by shortening transit and order sorting time. This is different from Prasetyo [39], which states that "Timeliness" at the X company is better than the competitors.

4.7. Service Attributes That Are Categorized as Attractive in Modified-Kano

Furthermore, the attributes that receive top priority for quality improvement are "Delivery staff with neat appearance (KK2) (A)" and "Shipping staff has knowledge and information about the product being shipped (KK3) (A)". This attribute is categorized as attractive in the Modified-Kano method. This means that the appearance of neat staff (KK2) (A) and couriers who know the delivered product (KK3) (A) are the service attributes that have the most influence on customer satisfaction. Although customers do not directly state that this attribute is their desire, if the X company can fulfill this attribute, it will provide enormous satisfaction for customers. This attribute will not disappoint even though the X company cannot fulfill it.

On the attribute "Delivery staff has knowledge and information about the product being shipped (KK3) (A)", this means that the customer expects the courier to know information about the product being sent, such as the condition of the item before it is shipped. This is in line with Hati and Juliati's [31] study that staff knowledge about the products delivered affects customer satisfaction. As explained by a logistics service staff in an interview for this research, to deliver the shipment, the courier must also know the condition of the goods. For example, suppose the condition of the goods before being sent is in good condition when the delivery process is not desired. In that case, the delivery service will perform a replacement procedure. However, if the goods are in an unfavorable condition, such as the damaged packaging, it can be informed to the recipient in advance. Therefore, to increase customer satisfaction, the X company couriers can improve their quality by knowing information about the product and whether it is in good condition.

4.8. Service Attributes Categorized as Neglected Opportunity

Another service attribute that needs to be improved is the service attribute categorized as "Neglected Opportunity" in SIPA. This attribute is considered important by customers, but both the X company and the competitor give a poor performance on this attribute [42]. Attributes included in Neglected opportunity are "Shipping staff understand how to handle goods safely (KK4) (O)" and "Provide information when there is a delay in delivery to customers (PK2) (O)". Another attribute is "There are contacts who receive complaints from customers (PK3) (O)", and "Quickly responsive in responding to order delivery problems (PK4) (O)". These attributes are also categorized as One-Dimensional, namely attributes that directly affect customer satisfaction.

The attribute "Shipping staff understands how to handle goods safely (KK4) (O)" means that the courier's ability to know how to handle goods properly has a direct effect on customer satisfaction. This follows the research that staff's ability is included in the LSQ and positively affects X company customers [31] However, both couriers at the X company and the competitor currently perform poorly on this attribute. This may be because the X company and the competitor currently apply repackaging and insurance policies for products at risk of being damaged and valuable. At the same time, these items are not separated from other items. At the X company, goods at risk of being damaged or broken, such as frames, glass, electronic equipment, food, and plants, will be checked first. According to one of the X company's staff, "If the goods to be sent have a risk of being damaged, the Sales Counter Officer (SCO) staff will suggest packaging repeat. However, suppose the sender refuses to repackage. In that case, the X company will issue a statement letter that must be signed by the sender, which means that the sender agrees that if there is a risk of damage to the goods, they cannot claim replacement from the X company." The packaging that can be used is cardboard, bubble wrap, wood, and another packaging. In addition, the X company also offers insurance for goods or documents with a price/value exceeding 10× the shipping cost. While on the competitors, the sender can convey to the

admin if they want the goods sent to get insurance. Then the admin will calculate the insurance cost, which is 0.2% of the price on the invoice. However, if there is damage or loss of goods during delivery, the competitor's customers can demand a full replacement of IDR. 20,000,000 for products that have received insurance, and $10\times$ the shipping cost for goods without insurance, with a maximum replacement cost of IDR. 1,000,000. To increase customer satisfaction on this attribute, the researchers suggest that couriers pay more attention to what kind of products are sent and whether there are certain labels such as "fragile" to provide proper handling.

The X company's low performance in handling non-conformance orders is also following Aminah, Rafani, and Hayani [43], that customers are dissatisfied with the X company's services when responding to problems that occur in shipping. So the researchers suggest that the X company can be responsive in providing information if there is a delay in delivery. This information should be easily accessible by customers through social media or automated messages sent to the sender and recipient of the order. In addition, the X company should maximize the use of customer service contacts and provide special contacts who receive customer complaints at each branch office. This is to increase the effectiveness of handling customer problems.

4.9. Service Attributes Categorized as Head-to-Head Competition

Performance of service attributes at the X company is not categorized as "Competitive Advantage" when compared to the competitor and is a problem that needs special attention. The two service attributes that have the strategy "Keeping Alert Attributes" in the SIPA Method are classified as "Head-to-head Competition". Customers consider these attributes necessary, and both the X company and the competitor have satisfied customers with the performance provided. The two attributes are "Products delivered according to the product ordered (KP1) (O)" and "Sending the number of goods according to the order" (KP2) (O)". The X company must adequately maintain the performance of these two attributes to maintain its competitive strength with the competitor. This follows Prasetyo [31] that the accuracy of the competitor's orders is better than the X company's.

4.10. Service Attributes Categorized as False Alarm, and Null Opportunity

The service attribute "Having friendly delivery staff when providing services to customers (KK1) (O)" is categorized as a False Alarm. This means that in this attribute, The Competitor performs better than the X company, while customers do not think this attribute is essential. Therefore, improving performance on this attribute is not prioritized because even though the delivery staff is more friendly in providing services, it will not increase customer satisfaction. However, the attribute is categorized as One-Dimensional, which means that the attribute is considered important to customers. Customers will feel satisfied if these attributes are met. According to Hati and Juliati [31], friendly delivery staff positively affected the X company's customer satisfaction. Therefore, the researcher suggests that the delivery staff give friendly treatment to customers, such as smiling and greeting.

The attributes "Shipping staff have a neat appearance (KK2) (A)" and "Shipping staff has knowledge and information about the products sent (KK3) (A)" were categorized as "Null Opportunity". These two attributes are considered less important for customers, so performance improvements in both are not given priority. However, both attributes are categorized as attractive, which means that although they are not directly expressed as customer needs, they can provide great satisfaction. This follows research by Hati and Juliati [31], which concludes that if the courier has a neat appearance and knows information about the product being sent, it will positively affect customer satisfaction. Therefore, the researcher suggests that the delivery staff should wear neat clothes. It is also better to use a uniform that reflects the identity of the X company's courier.

4.11. Theoretical Contribution

SIPA and Modified Kano used in this research differ from IPA and Kano. Through SIPA, there is a third dimension that also includes competitor performances. Instead of only assessing company performance, we can know its position too in the market to gain big profits. The best way to assess a company's performance is to compare it with other companies/brands [21] and prevent thinking that the company only focuses on itself. Meanwhile, their competitors have defeated them in actual conditions [23].

Modified-Kano has a difference from Kano in how it classifies attributes. In Kano, there is more probability of classifying attributes as not significantly affecting customer satisfaction. Meanwhile, some studies discussed if attributes might have a dynamic cycle that turns them from not significant factors for customers to necessary ones. Kano [29] recognized that in the one attribute, there is a change from indifferent to One-dimensional and then back to indifferent. Lofgren, Witell, and Gustaffson [10] also supported empirical research evidence for the existence dynamic cycle of the quality attribute. Therefore, Modified-Kano better accommodates customer perceptions [9].

5. Conclusions

This study proposes the integration of SIPA-Modified-Kano to determine the research uses SIPA-integration modified Kano in a case study of user's Shopee in Indonesia with the following strategic management. Although the X company is the most widely used logistics service provider in Indonesia, the analysis results in this study must be vigilant and immediately take strategic steps to improve its performance. In the SIPA method, five attributes are categorized as Competitive-Disadvantage. They are provided appropriate information regarding time in service (KI1), accurate shipping information (K12), and quick products received (KW1). Other attributes in this category are timely product delivery (KW2) and the availability of product delivery status information (PK1). Moreover, the attributes that are further prioritized for improvement are categorized as Neglected Opportunities in SIPA. These attributes are "Shipping staff understands how to handle goods safely (KK4)", "Provide information when there is a delay in delivery to customers (PK2)", "There are contacts who receive complaints from customers (PK3)", and "Quick response in responding problems in the delivery of orders (PK4)".

The results of this study did not find any of the X company's attributes that were categorized as "Competitive Advantage". Attributes categorized as Competitive Advantage means that the attributes that are considered important by customers, customers perceive their performance as better than their competitors [42]. Therefore, the absence of attributes that fall into this category is quite worrying. This means that from the attributes considered necessary by customers, none of them is considered to have a better performance than the competitor. Therefore, the X company must maintain the performance of attributes that are considered to have the same good performance as the competitor.

The X company should also not waste money and resources on unimportant attributes for customers. Therefore, performance improvements on this attribute are not prioritized. For example, the service attribute is "Having friendly delivery staff when providing services to customers (KK1), "categorized as False Alarm in SIPA. Attributes classified as Null Opportunity are also considered less important for customers, so performance improvements on this attribute are not prioritized. However, on the attributes "Delivery staff have a neat appearance (KK2)" and "Shipping staff has knowledge and information about the products sent," even though they are categorized as Neglected Opportunity, the two attributes are categorized as Attractive in the Modified-Kano. This means that delivery staff who are well-groomed and knowledgeable about the product being shipped may be able to bring great satisfaction to the customer. Therefore, the researcher recommends that the management determine the rules of neat clothing, such as uniforms, to other attributes that reflect identity as the X company's delivery staff. The researcher also suggests that the management add Standard Operating Procedure (SOP) for delivery staff to identify what products are shipped and how the conditions of the products are delivered.

Furthermore, the respondents of this study were limited to e-Commerce users in Indonesia with the X company and the competitor's consumers only. Therefore, further research can investigate whether other e-commerce countries have similar or different findings.

Appendix A

Table A1. SIPA & Modified Kano Questionnaire.

No.	Importance Question	Linkert Scale of Importance				
		1	2	3	4	5
1	K11. The information provided regarding time in service is appropriate and correct					
2	K12. Delivery information is appropriate and accurate.					
3	KP1. The product sent is following the product ordered.					
4	KP2. Send the number of goods following the order.					
5	KW1. Products are ordered, shipped, and received quickly.					
6	KW2. Products ordered are delivered following the promised time.					
7	KK1. Have friendly delivery staff when providing service to customers.					
8	KK2. Delivery staff have a neat appearance					
9	KK3. Delivery staff have knowledge and information about the product being shipped					
10	KK4. The delivery staff understands how to handle goods safely.					
11	PK1. Availability of information on product delivery status					
12	PK2. Provide information when there is a delay in delivery to customers					
13	PK3. Some contacts receive complaints from customers					
14	PK4. Respond quickly in responding to problems in shipping orders.					

Table A1. *Cont.*

No.	Functional Question	Linkert Scale of Performance				
		1	2	3	4	5
1	K11. How do you feel if the information provided regarding time in service is appropriate and correct?					
2	K12. If delivery information is appropriate and accurate, how do you feel?					
3	KP1. How do you feel if the product sent is following the product ordered?					
4	KP2. How do you feel if the delivery service sends the number of goods following the order?					
5	KW1. How do you feel if products are ordered, shipped, and received quickly?					
6	KW2. If products ordered are delivered following the promised time, how do you feel?					
7	KK1. How do you feel if delivery service has friendly delivery staff when providing service to customers?					
8	KK2. If delivery staff with a neat appearance, how do you feel?					
9	KK3. How do you feel if delivery staff have knowledge and information about the product being shipped?					
10	KK4. How do you feel if delivery staff understands how to handle goods safely?					
11	PK1. How do you feel about the availability of information on product delivery status?					
12	PK2. How do you feel if the information is provided when there is a delivery delay to customers?					
13	PK3. If there are contacts who receive complaints from customers, how do you feel?					
14	PK4. How do you feel if the delivery service responds quickly to problems in shipping orders?					
No.	Dysfunctional Questions	Linkert Scale				
		1	2	3	4	5
1	K11. How do you feel if the information provided regarding time in service is inappropriate and correct?					
2	K12. If delivery information is not appropriate and accurate, how do you feel?					
3	KP1. How do you feel if the product sent is not following the product ordered?					
4	KP2. How do you feel if the delivery service does not send the number of goods following the order?					
5	KW1. How do you feel if products are ordered, shipped, and received not quickly?					
6	KW2. If products ordered are delivered not following the promised time, how do you feel?					
7	KK1. If delivery service has not friendly when providing service to customers, how do you feel?					

Table A1. *Cont.*

No.		Linkert Scale				
8	KK2. If the delivery staff with a not neat appearance, how do you feel?					
9	KK3. How do you feel if delivery staff have no knowledge and information about the product being shipped?					
10	KK4. If the delivery staff not understand how to handle goods safely, how do you feel?					
11	PK1. How do you feel if there is no information on product delivery status?					
12	PK2. How do you feel if the information is not provided when there is a delivery delay to customers?					
13	PK3. If there are no contacts who receive complaints from customers, how do you feel?					
14	PK4. How do you feel if the delivery service is slowly responding to problems in shipping orders?					

No.	Performance Questions in both X and Y	Linkert Scale				
		1	**2**	**3**	**4**	**5**
1	Accuracy of time information in delivery [X]					
	Accuracy of time information in the delivery [Y]					
2	Accuracy of delivery information [X]					
	Accuracy of delivery information [Y]					
3	Accuracy of the product ordered [X]					
	Accuracy of the product ordered [Y]					
4	Accuracy number of goods ordered [X]					
	Accuracy number of goods ordered [Y]					
5	Rapidity to process and deliver the ordered product [X]					
	Rapidity to process and deliver the ordered product [Y]					
6	Accuracy of the product ordered with promised time [X]					
	Accuracy of the product ordered with promised time [Y]					
7	Staff delivery friendliness when providing service to customers [X]					
	Staff delivery friendliness when providing service to customers [Y]					
8	Staff appearance [X]					
	Staff appearance [Y]					
9	Staff knowledge about the delivered product [X]					
	Staff knowledge about the delivered product [Y]					
10	Staff knowledge to handle the goods safely [X]					
	Staff knowledge to handle the goods safely [Y]					
11	Availability of information about product delivery status [X]					
	Availability of information about product delivery status [Y]					

Table A1. *Cont.*

12	Availability of information to customers when there is a delay in the delivery [X]
	Availability of information to customers when there is a delay in the delivery [Y]
13	Availability of contacts receiving complaints from customers [X]
	Availability of contacts receiving complaints from customers [Y]
14	Responsiveness in responding to problems in shipping orders [X]
	Responsiveness to respond to problems in shipping order [Y]

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