

## Improvement the Quality of Distributor Broiler Chickens Berkah Cahaya Mandiri Based on Customer Needs Analysis Using Integration Service Quality and Model Kano

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**Abstrak:** Berkah Cahaya Mandiri merupakan usaha milik keluarga yang bergerak pada sektor unggas sebagai distributor ayam broiler hidup, yang didirikan sejak tahun 2018. Penelitian ini bertujuan untuk mengidentifikasi atribut kebutuhan pelanggan yang diperoleh dengan penggalan Voice of Customer (VoC) melalui wawancara mendalam (In-depth Interview) kepada tujuh pelanggan Berkah Cahaya Mandiri. sehingga dapat dijadikan sebagai dasar dalam perbaikan layanan. Metode yang digunakan untuk mendapatkan atribut kebutuhan sesuai dengan preferensi pelanggan adalah Integrasi Service Quality dan Model Kano. Integrasi Service Quality dan Model Kano dapat melengkapi kekurangan dari masing-masing metode dalam melakukan pemecahan masalah dengan memberikan solusi yang tepat. Hasil integrasi Service Quality dan Model Kano menghasilkan True Customer Needs. Berdasarkan True Customer Needs didapatkan 14 atribut yang harus ditingkatkan yaitu kelayakan kendaraan pengantaran (TE1), kondisi keranjang dalam keadaan baik (TE5), keramahan karyawan dalam melayani pelanggan (EM1), kesopanan karyawan dalam melayani pelanggan (EM2), kemudahan karyawan untuk dihubungi (EM3), kemampuan komunikasi yang baik dengan pelanggan (EM4), ketepatan waktu pengantaran ayam (RE1), kemampuan penyalur dalam memenuhi permintaan (RE2), kualitas ayam terjaga dengan baik (RE3), kesesuaian pesanan ayam dengan yang dijanjikan (RE4), kemampuan karyawan dalam menangani keluhan pelanggan (RS3), ketersediaan kompensasi jika pesanan tidak sesuai dengan yang dijanjikan (AS1), karyawan timbangan memiliki pengetahuan yang baik tentang ayam (AS2), akurasi perhitungan pembayaran pesanan (AS4).

**Abstract:** Berkah Cahaya Mandiri is a family-owned business engaged in the poultry sector as a distributor of live broilers, which was established in 2018. This study aims to identify the attributes of customer needs obtained by extracting Voice of Customer (VoC) through in -depth interviews with seven Berkah Cahaya Mandiri customers. so that it can be used as a basis for service improvement. The method used to obtain the attributes of needs in accordance with customer preferences is Service Quality Integration and the Kano Model. Service Quality Integration and the Kano Model can complement the drawbacks of each method in solving problems by providing the right solution . The results of the integration of Service Quality and the Kano Model produce True Customer Needs. Based on True Customer Needs, there are 14 attributes that must be improved, namely the feasibility of delivery vehicles (TE1), the condition of the basket in good condition (TE5), employee friendliness in serving customers (EM1), employee courtesy in serving customers (EM2), ease of employees to contact (EM3), good communication skills with customers (EM4), timeliness of chicken delivery (RE1), the ability of distributors to fulfill demand (RE2), the



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quality of chicken is well maintained ( RE3), the suitability of chicken orders as promised (RE4), the ability of employees to handle customer complaints (RS3), the availability of compensation if the order is not as promised (AS1), weighing employees have good knowledge of chicken (AS2 ), the accuracy of calculating order payments (AS4).

**INTRODUCTION**

According to the Central Statistics Agency (BPS), the number of broiler chicken production in West Java from 2019 to 2021 decreased (Central Statistics Agency, 2022) . In Figure 1 it can be seen that the average number of chicken production over three

years decreased by 16.71% with an average annual production of 794,756.28 tons. Despite the decline, West Java contributes almost a quarter of national broiler meat production, the total of which will reach 3.18 million tons in 2021.

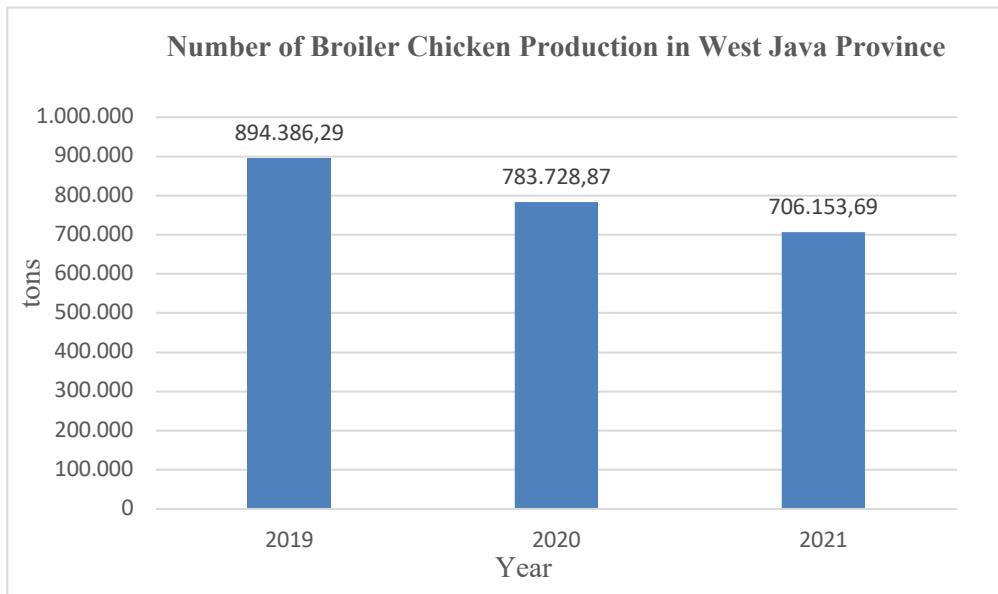


Figure 1. Number of Broiler Chicken Production in West Java Province 2019-2021

The decrease in the number of broiler chicken production has resulted in a decrease in the availability of chickens. This can result in unfulfilled demand from customers, thereby affecting the decline in sales of broiler chicken distributors in West Java, one of which is Berkah Cahaya Mandiri.

Berkah Cahaya Mandiri is a family-owned business operating in the poultry

sector as a distributor of live broiler chickens, located in Jatiasih District, Bekasi City, West Java. Established in 2018 until now, Berkah Cahaya Mandiri has 35 customers. Its customers are spread across eight markets in the Bekasi and Tangerang areas. The number of customers is in Table 1.

Table 1. Data on the number of Berkah Cahaya Mandiri customers

No	Market Name	Number of Customers
1	Bekasi Bintara Market	4
2	Bekasi Udin Combo Market	2
3	Pasar Bojong Taruma Jaya Bekasi	6
4	Gebang Market, Tangerang	5
5	Kuta Bumi Tangerang Market	4
6	Harapan Indah Fighters Market, Bekasi	5
7	Simpang Tiga Mill Market	6
8	Harapan Indah Family Market, Bekasi	3
Total		35

Based on the data provided by the owner of Berkah Cahaya Mandiri, it can be seen that the number of chickens sold for the period January 2021 to August 2022. In Figure 2 it can be seen that there was a decrease in the number of chickens sold by

Berkah Cahaya Mandiri during that period. The lowest sales occurred in February 2021 with 49,327 heads while the highest sales occurred in April 2022 with 100,450 heads. The average chicken sales during that period was 69,570 chickens.

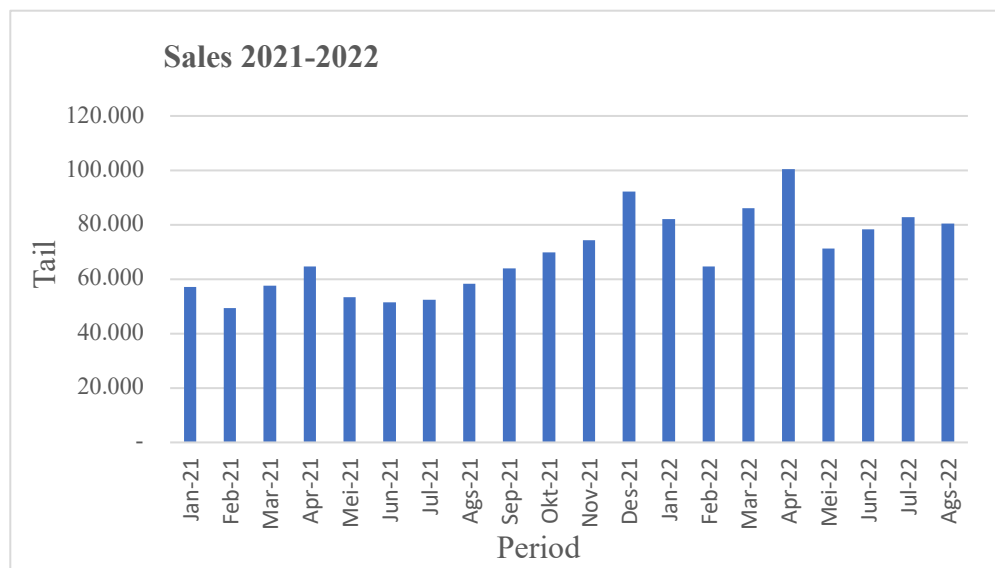


Figure 2. Sales of Berkah Cahaya Mandiri in 2021-2022

The factors that affected the decline in sales from Berkah Cahaya Mandiri were due to competitive pressure from competitors in similar fields. It is known that customers buy chicken not only from one distributor. In addition, the quality of service provided by Berkah Cahaya Mandiri is not good, causing customers to reduce the number of requests for chicken, then customers increase the number of requests to competitors.

To find out the cause of the decline in sales, in-depth interviews were conducted with Berkah Cahaya Mandiri customers. This in-depth interview aims to explore information related to complaints experienced by Berkah Cahaya Mandiri customers. Customer complaint data can be seen in Table 2.

Table 2. Berkah Cahaya Mandiri customer complaint data

Dimensions	Complaint	Percentage
<i>Tangibles</i>	The condition of the basket has a broken wall and is dirty	28%
	Employee clothes are shabby and dirty	28%
<i>Empathy</i>	Employee clothes are shabby and dirty	28%
	Employee communication skills are poor	14%
<i>Reliability</i>	Chicken delivery was late	42%
	The weight of the chicken is uneven	42%
<i>Responsiveness</i>	Employees are less able to handle complaints	42%
<i>Assurance</i>	Knowledge of employees in sorting chickens is still not good	42%
	Order payment calculations are less accurate	14%

Based on the results of interviews, it is known that there are various complaints felt by Berkah Cahaya Mandiri customers. This shows that there is still a gap between reality and customers' expectations regarding the quality of services provided.

Service quality is the customer's perception of the service received. The Service Quality method was first popularized by Parasuraman, Berry, and Zeithaml in 1988 with five dimensions of service quality namely Tangible, Empathy, Reliability, Responsiveness, and Assurance or known as TERRA (Parasuraman et al., 1988). Based on a review of previous research literature on the Food Industry, the research variables conducted by Rahim et al (2016) are *Tangibles, Responsiveness, Assurance, Empathy, Reliability, Product Development, Halal, Outcome quality*.

Meanwhile, Alshehri & Albukhari's research (2021) uses dimensions, namely *Cost, Quality, Service, Technology, Reliability, Time, Management and Organization*. And in Sari & Rachmawati's (2022) research, the dimensions *Tangible, Empathy, Reliability, Responsiveness and Assurance* were used.

Based on the identification of the problems that have been carried out, in this study, it can be seen that the problems faced by Berkah Cahaya Mandiri are in the quality of service which is still not good or has not been able to meet customer satisfaction. Therefore, it is necessary to improve the quality of service according to customer requirements. The goal is for customers to increase the number of purchases of chicken at Berkah Cahaya Mandiri so that sales increase.

**METHODS**

**Servqual and Kano Integration Framework**

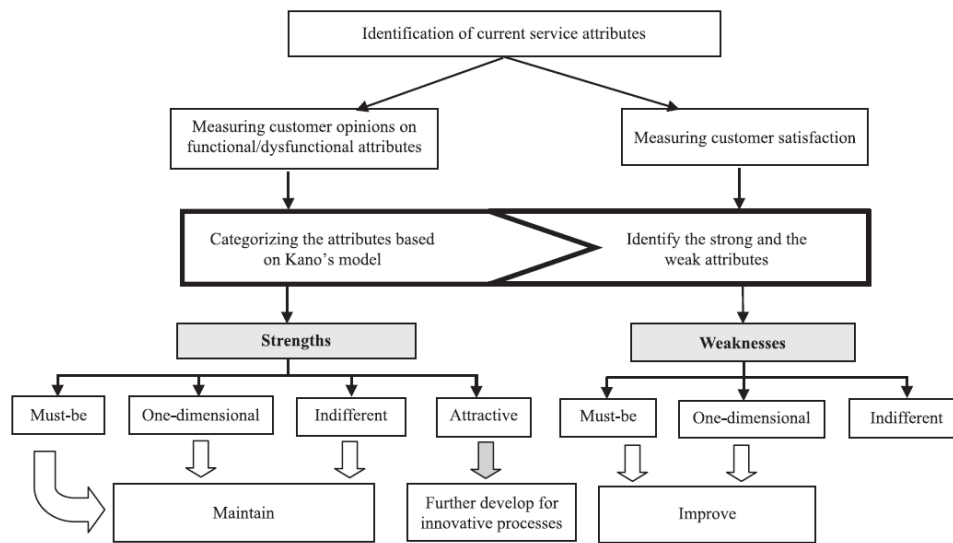


Figure 3. Service Quality Integration Framework and the Kano Model

Figure 3 shows the integration framework of Service Quality and the Kano Model (Pawitra & Tan, 2001). The Service Quality method cannot describe a linear relationship between customer satisfaction and performance attributes. The Kano model cannot provide quantitative or qualitative values for the quality of performance of these attributes. Therefore, *Service Quality Integration* and the Kano Model can complement the weaknesses of each method for solving problems by providing the right solution. Integration of *Service Quality* and the Kano Model can recommend the basis of improvement planning so that it will show

the relationship between the customer and his needs which will later be identified as *True Customer Needs*.

**Questionnaire Design**

In this study, there were two questionnaires used, namely the Service Quality Questionnaire and the Kano Model Questionnaire. The scale used in the service quality questionnaire is the Likert scale. This Likert scale is a rating scale from 1-4 which consists of the level of importance, the level of reality, and the level of expectation. The service quality questionnaire measurement scale can be seen in Table 3.

Table 3. Service Quality Measurement Scale

Scale	Interest Level	Reality Level	Expectation Level
1	Very unimportant	Very Not Good	Very Unexpected
2	Not important	Not good	Not expected
3	Important	Good	Expected
4	Very important	Very good	Is expected

In Kano's questionnaire, two levels of measurement scales are used, namely the functional scale and the dysfunctional scale. The measurement scale used for the Kano

model questionnaire is a *Likert scale* of 1-5 at the functional level and dysfunctional level as in Table 4.

Table 4. Kano Model Measurement Scale

Scale	Canoe Functional Level	Kano's Dysfunctional Level
STS	Strongly Disagree	Strongly Disagree
TS	Don't agree	Don't agree
N	Neutral	Neutral
S	Agree	Agree
SS	Strongly agree	Strongly agree

### Questionnaire Distribution

The sampling technique used in the Final Project research is non-probability sampling with the technique taken being the census. Census is a sample selection technique when all members of the population are used as samples (Sugiyono, 2013). Distribution of questionnaires was carried out at the location by directly distributing questionnaires printed on A4 paper to Berkah Cahaya Mandiri customers. The number of respondents in this study was 35 respondents.

### Data Processing

## RESULTS AND DISCUSSION

### Identification of Need Attributes

Identification of need attributes is carried out through a literature study of previous research relevant to the object and in-depth interviews to obtain *Voice of*

*Service Quality* data, the gap value is calculated and then continued by calculating the Customer Satisfaction Value (NKP) by multiplying the gap value and the level of importance. The results of NKP value processing show strong attributes and weak attributes. Then, in processing the Kano Model data, the needs attributes were categorized based on the Kano category using the Blauth Formula. According to Ir. Markus Hartono ST et al., (2018) need attributes are classified into six categories, namely, Attractive, One dimensional, Must-be, Indifferent, Questionable, and Reverse.

*Customer (VoC)* to identify customer needs from Berkah Cahaya Mandiri services. There are 20 attribute requirements which are grouped into the Service Quality dimension. Attributes of the needs of each of each dimension can be seen in Table 5.

Table 5. Needs Attributes Based on Service Quality Dimensions

No.	Dimensions	Need Attributes	Source
1	<i>Tangibles</i>	Delivery vehicle eligibility	VoC
		Modesty of clothing used by delivery personnel	(Murgani & Hasibuan, 2022)
		Cleanliness of clothing used by delivery personnel	(Murgani & Hasibuan, 2022)
		Cleanliness of the chicken basket	VoC
		The basket is in good condition	VoC
2	<i>Empathy</i>	Friendliness of employees in serving customers	(Alshehri & Albukhari, 2021)
		Employee politeness in serving customers	(Alshehri & Albukhari, 2021)

		Ease of contact for employees	(Darmawan et al., 2021)
		Good communication skills with customers	VoC
3	<i>Reliability</i>	Timeliness of chicken delivery	(Alshehri & Albukhari, 2021)
		The supplier's ability to meet demand	VoC
		The quality of the chicken is well maintained	VoC
		The conformity of the chicken order with what was promised	VoC
4	<i>Responsiveness</i>	The speed of the dealer in responding to orders	(Alshehri & Albukhari, 2021)
		Willingness of dealers to help customers	(Alshehri & Albukhari, 2021)
		The ability of employees to handle customer complaints	(Alshehri & Albukhari, 2021)
5	<i>Assurance</i>	Availability of compensation if the order is not as promised	(Alshehri & Albukhari, 2021)
		Scales employees have good knowledge about chickens	VoC
		Payment process flexibility	VoC
		Order payment calculation accuracy	VoC

### Service Quality Data Processing

In Service Quality processing, gap and NKP values are calculated to measure service quality regarding the performance of Berkah Cahaya Mandiri. The results of Service Quality data processing show that there are 20 weak attributes, which can be

seen from the NKP value which is negative. The weak attribute is an attribute that has a negative NKP value which indicates that the level of customer expectation for the Berkah Cahaya Mandiri service is higher than the actual level. The results of Service Quality data processing can be seen in Table 6.

Table 6. Servqual Questionnaire Data Processing

No	Attributes Code	Expected	Perceived	Gap	Importance	NKP	Type
1	TE1	3.14	3.54	-0.40	3.03	-1.21	weak
2	TE2	2.74	3.17	-0.43	2.54	-1.09	weak
3	TE3	2.46	3.20	-0.74	2.66	-1.97	weak
4	TE4	2.71	3.43	-0.71	3,11	-2,22	weak
5	TE5	2.83	3.31	-0.49	3.14	-1.53	weak
6	EM1	3.14	3.43	-0.29	3,26	-0.93	weak
7	EM2	3,23	3,40	-0.17	3.37	-0.58	weak
8	EM3	3.00	3.31	-0.31	3.17	-1.00	weak
9	EM4	2.97	3,34	-0.37	3,11	-1.16	weak
10	RE1	2.91	3.69	-0.77	3.63	-2.80	weak

11	RE2	3.14	3.66	-0.51	3,40	-1.75	weak
12	RE3	3.17	3.71	-0.54	3.77	-2.05	weak
13	RE4	3.03	3.63	-0.60	3.57	-2.14	weak
14	RS1	2.94	3,26	-0.31	3.09	-0.97	weak
15	RS2	2.91	3,40	-0.49	2.94	-1.43	weak
16	RS3	3.06	3.46	-0.40	3.14	-1.26	weak
17	AS1	3.37	3.63	-0.26	3,34	-0.86	weak
18	AS2	3.31	3.63	-0.31	3.49	-1.10	weak
19	AS3	3.14	3.43	-0.29	3.20	-0.91	weak
20	AS4	3,40	3.63	-0.23	3.51	-0.80	weak

### Kano Model Data Processing

The Kano Model Processing is used to determine the category of attribute needs based on the Kano category and measure how well the service is able to provide customer satisfaction. Classification of requirement attributes is categorized into canoes using the Blauth Formula. Needs attributes are grouped into six Kano categories, namely *Attractive* (A), *One*

*dimensional* (O), *Must-be* (M), *Indifferent* (I), *Questionable* (Q), and *Reverse* (R). The results of the Kano model data processing of a total of 20 attribute needs, there are six attributes of the *Attractive* category, four attributes of the *One-dimensional* category, four attributes of the *Must-be* category, and six attributes of the *Indifferent* category can be seen in Table 7.

Table 7. Kano Model Questionnaire Data Processing

No	Attributes Code	A	O	M	I	Q	R	A+O+M	I+Q+R	Canoe Categories
1	TE1	5	8	9	13	0	0	22	13	M
2	TE2	4	2	3	26	0	0	9	26	I
3	TE3	2	1	3	29	0	0	6	29	I
4	TE4	5	1	1	28	0	0	7	28	I
5	TE5	9	3	6	17	0	0	18	17	A
6	EM1	5	3	11	16	0	0	19	16	M
7	EM2	8	4	7	16	0	0	19	16	A
8	EM3	10	4	7	14	0	0	21	14	A
9	EM4	8	4	6	17	0	0	18	17	A
10	RE1	5	8	7	15	0	0	20	15	O
11	RE2	5	8	6	16	0	0	19	16	O
12	RE3	8	15	3	9	0	0	26	9	O
13	RE4	2	4	13	16	0	0	19	16	M
14	RS1	6	2	3	24	0	0	11	24	I
15	RS2	6	3	3	23	0	0	12	23	I
16	RS3	11	2	7	15	0	0	20	15	A
17	AS1	4	6	14	11	0	0	24	11	M
18	AS2	10	3	5	17	0	0	18	17	A
19	AS3	2	1	5	27	0	0	8	27	I
20	AS4	5	9	8	13	0	0	22	13	O

### Service Quality and Kano Model Integration Data Processing

The integration of Service Quality and the Kano Model aims to determine the priority attributes to be improved, maintained, and ignored by Berkah Cahaya

Mandiri. The results of processing the Integration of Service Quality and the Kano Model produce weak attributes. The results of the integration of *Service Quality* and the Kano model can be seen in Table 8.



Table 8. Integration of Service Quality and Kano Model

No	Attribute Code	NKP	Attribute Type	Canoe Category	Action
1	TE1	-1.21	Weak	M	Improved
2	TE2	-1.09	Weak	I	ignored
3	TE3	-1.97	Weak	I	Ignored
4	TE4	-2.22	Weak	I	Ignored
5	TE5	-1.53	Weak	A	Improved
6	EM1	-0.93	Weak	M	Improved
7	EM2	-0.58	Weak	A	Improved
8	EM3	-1.00	Weak	A	Improved
9	EM4	-1.16	Weak	A	Improved
10	RE1	-2.80	Weak	O	Improved
11	RE2	-1.75	Weak	O	Improved
12	RE3	-2.05	Weak	O	Upgraded
13	RE4	-2.14	Weak	M	Improved
14	RS1	-0.97	Weak	I	Ignored
15	RS2	-1.43	Weak	I	ignored
16	RS3	-1.26	Weak	A	Upgraded
17	AS1	-0.86	Weak	M	Upgraded
18	AS2	-1.10	Weak	A	Upgraded
19	AS3	-0.91	Weak	I	ignored
20	AS4	-0.80	Weak	O	Upgraded

The results of the Integration of Service Quality and the Kano Model, there are 14 attributes that are recommended to be improved and six attributes that are recommended to be ignored by Berkah Cahaya Mandiri. Based on the conceptual model of *Service Quality Integration* and the Kano Model, the weak attributes in the *must-be*, *one-dimensional*, and *attractive categories* must be improved, while the *indifferent attribute* can be ignored.

#### True Customer Needs

There are 14 need attributes included in True Customer Needs. In *True Customer Needs (TCN)*, the attributes in the Kano *must-be*, *one-dimensional* and *attractive* model categories must be improved. The need attributes that are used as *True Customer Needs (TCN)* can be seen in Table 9.

Table 9. True Customer Needs

No	Attribute Code	Attribute	Attribute Type	Canoe Category	Action
1	TE1	Delivery vehicle eligibility	Weak	M	Improved
2	TE5	The basket is in good condition	Weak	A	Improved
3	EM1	Friendliness of employees in serving customers	Weak	M	Improved
4	EM2	Politeness of employees in serving customers	Weak	A	Upgraded
5	EM3	Ease of employees to be contacted	Weak	A	Upgraded
6	EM4	Good communication skills with customers	Weak	A	Improved
7	RE1	Timeliness of chicken delivery	Weak	O	Improved
8	RE2	The ability of distributors to fulfill demand	Weak	O	Improved
9	RE3	The quality of the chicken is well maintained	Weak	O	Improved
10	RE4	Conformity of chicken orders with what was promised	Weak	M	Improved
11	RS3	The ability of employees to handle customer complaints	Weak	A	Improved
12	AS1	Availability of compensation if the order is not as promised	Weak	M	Improved
13	AS2	Scale staff have good knowledge about chickens	Weak	A	Improved
14	AS4	Accuracy of order payment calculations	Weak	O	Improved

Table 9 shows that there are four weak attributes in the *must-be* category, namely the suitability of the delivery vehicle (TE1), the friendliness of employees in serving customers (EM1), the conformity of the chicken order with what was promised (RE4), and the availability of compensation if the order does not match what was promised. (AS1), four weak attributes in the *one-dimensional* category, namely Timeliness of chicken delivery (RE1), Ability of distributors to fulfill demand (RE2), Quality of chicken is well maintained (RE3), and Accuracy of order

payment calculations (AS4), six weak attributes with the *attractive* category, namely basket condition in good condition (TE5), employee politeness in serving customers (EM2), employee ease of contact (EM3), good communication skills with customers (EM4), employee ability in handling customer complaints (RS3), and Scale employees have good knowledge about chickens (AS2). All weak attributes in *True Customer Needs* (TCN) need to be improved and become a reference for improving Berkah Cahaya Mandiri services

## CONCLUSION

Based on the identification of the need attributes, 20 attribute needs for the Mandiri Cahaya Mandiri service were obtained which were identified based on the results of *Voice of Customer* (VOC) interviews and literature studies using the five dimensions of Service Quality, namely *tangibles*, *empathy*, *reliability*, *responsiveness* and *assurance*. There are a total of 20 attributes consisting of five attributes with *tangibles dimension*, four attributes with *empathy dimension*, four attributes with *reliability dimension*, three attributes with *responsiveness dimension*, and four attributes with *assurance dimension*. In the data processing of the *Service Quality* questionnaire, it was found that 20 service need attributes were included in the weak attribute category or the performance services provided did not meet customer expectations based on the Berkah Cahaya Mandiri Customer Satisfaction Value (NKP) obtained for each attribute. In the processing results of the Kano Model classification data, six attributes are included in the *Attractive (A) category*, four *One Dimensional (O) attributes*, four *Must-Be (M) attributes*, and six *Indifferent (I) attributes*. Based on the results of the integration of *Service Quality* and the Kano Model, 14 attributes are obtained that are *true customer needs* and need to be improved by Berkah Cahaya Mandiri

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