

CHAPTER 4

DATA ANALYSIS

To answer the research question: *What are service dimensions implemented in 'Yoyok Carwash at Puri Anjasmoro Raya no 25 Semarang.?' The writer distributed the questionnaire which consists of 28 items of 5 service dimensions (Empathy, assurance, reliability, tangibles, and responsiveness.*

First, the writer will discuss the validity and the reliability of the questionnaire. The writer did not do a pilot study, so the data on the items which are not valid are dropped. The result of the questionnaire was analyzed using SPSS 24 (Statistical Package for Social Science). It is a program that is usually used in descriptive statistics

4.1 The Validity and Reliability of the Items in the questionnaire

The items were analysed using SPSS and then were checked to know whether they are valid or not by using SPSS 24

4.1.1 Validity

From that analysis, the writer got the number of Corrected Item-Total Correlation or validity counting. This validity test is used to measure whether the question is valid or not. The statement was considered as valid when the value of significance is higher than the value in the R table. The formula used for the

validity check is $df = n - 2$. N is the total participants. As there are 38 participants meaning that the df is 36 (38 - 2) with the significance level of 5% and the $r_{table} = 0.2709$. The validity of a statement can be known if $r_{counting} > r_{table}$ means the statement is valid and if $r_{counting} < r_{table}$ means the statement is not valid. In checking the reliability of the data, the writer used Cronbach's Alpha. The writer tested the validity of each question based on the result of the respondents' answer using SPSS 24 program to know the validity of each statement. From that analysis, the writer got the number of Corrected Item-Total Correlation or reliability counting.

For all the items of five service dimensions, (7 items on empathy, 5 items on assurance, 5 items on reliability, 6 items on tangibles and 4 items on responsiveness. Based on the data analysis using SPSS 24, it was found out that item 3 of empathy (Customers are known by name) was not valid and item 6 of tangibles (There are enough parking places) was also invalid so that the writer dropped these two statements.

Table 1 Validity

No	Statement	value	table	em
d.	The interest of the			
	Requests/instructi			
	nonored.			

Customers are

Service personnel

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Customers are

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Operating hours

Agreement is

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The customer is

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The owner gives

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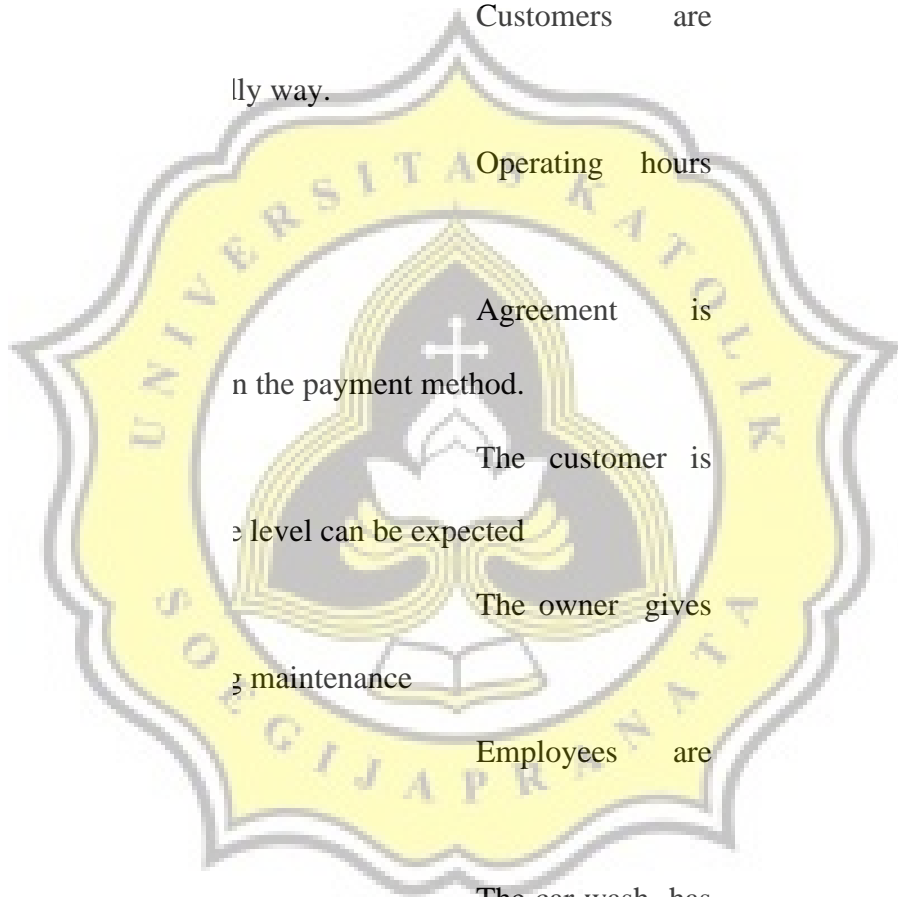
Employees are

The car wash has

Customers know

hes their car

The owner



stomer complaints

The service

The washing is

Appointments are

The washing is

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There is clear

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There is sufficient

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The owner's

Employees are

There are enough

The telephone is

Complaints are

The customer
tion on arrival .

The owner
maintenance are carried

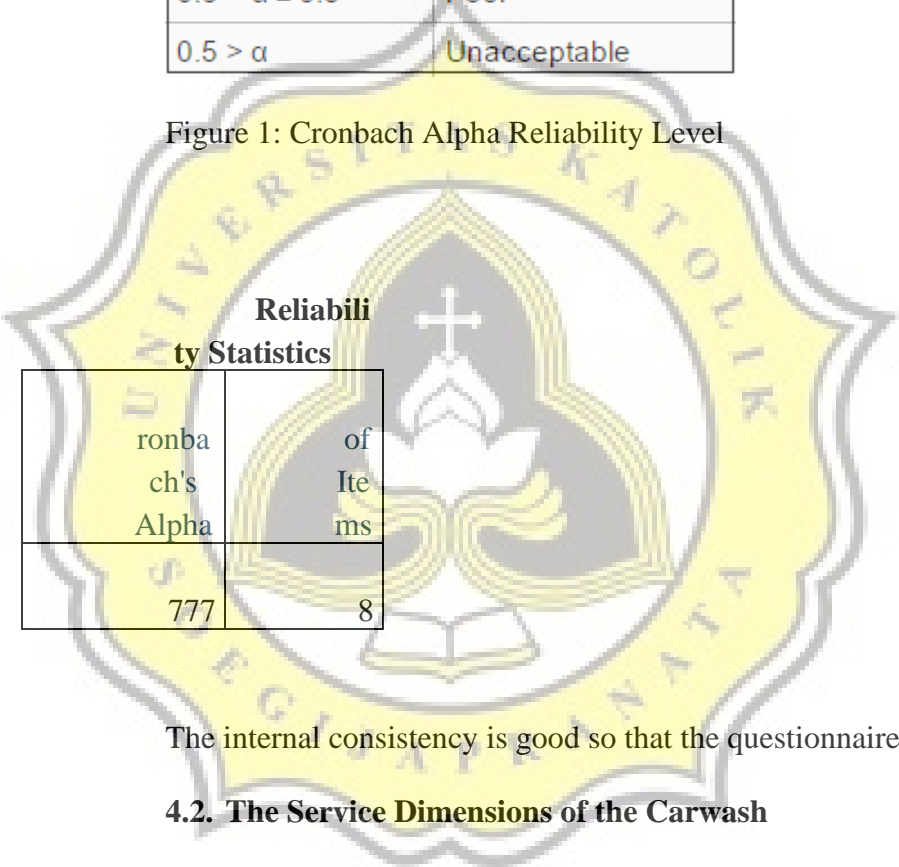
4.1.2 Reliability

To know the reliability of the questionnaire, the writer analysed the statements by using cronbach's alpha. The questionnaire is reliable. The result of the value was more than.0.9

Reliability Table Result for the questionnaire.

Cronbach's alpha	Internal consistency
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

Figure 1: Cronbach Alpha Reliability Level



Reliability Statistics	
Cronbach's Alpha	0.777
Number of Items	8

The internal consistency is good so that the questionnaire is acceptable.

4.2. The Service Dimensions of the Carwash

To know how Yoyok carwash implemented the service dimensions, the writer used the data collected from the questionnaire. The following are the result of the analysis. It will discuss the mean of each dimension to know whether the customers feel satisfied with the service given in Yoyok carwash.

4.2.1. The Empathy

There are five items in the questionnaire to know the empathy dimension implemented in Yoyok carwash. The following is the mean of the empathy dimension

Descriptive Statistics of Empathy Dimension

	Minimum	Maximum	Mean
1	8	0	2.8947
2	8	0	3.6316
3	8	0	1.7632
4	8	0	3.4737
5	8	0	3.7632

6	8	.00	.00	2.0263
7	8	.00	.00	1.6842
valid N (listwise)	8			2.748129

The data above shows that the mean is 2.748129. This means that they agree that the can find the empathy dimension implemented in the carwash. As the mean is above 2.5 which can be considered that the empathy dimension is perceived by the customers as satisfying.

4.2.2. The Assurance

There are five items in the questionnaire to know the assurance dimension implemented in *Yoyok* carwash. The following is the mean of the assurance dimension

Descriptive Statistics of Assurance Dimension

	Minimum	Maximum	Mean
--	---------	---------	------

			4.	3
	8	.00	00	.6842
	8	.00	00	.2368
	8	.00	00	.7895
	8	.00	00	.2368
	8	.00	00	.6842
	8			
				3
				.3263

The data above shows that the mean is 3.3263. This means that they agree that the can find the assurance dimension implemented in the carwash. As the mean is above 2.5 which can be considered that the assurance dimension is perceived by the customers as satisfying. This is the highest mean among the other

service dimension. It seems that Yoyok carwash can give assurance dimension to most of the respondents.

4.2.3. The Reliability

There are five items in the questionnaire to know the reliability dimension implemented in Yoyok carwash. The following is the mean of the reliability dimension

Descriptive Statistics of Reliability

	Minimum	Maximum	Mean
1	8.00	10.00	2.3158
2	8.00	10.00	2.1053
3	8.00	10.00	3.7105
4	8.00	10.00	3.7895
5	8.00	10.00	2.7368
Valid N (listwise)	8		2.93158

The data above shows that the mean is 2.93158. This means that they agree that they can find the reliability dimension implemented in the carwash and that they feel satisfied with it. As the mean is above 2.5 which can be considered that the reliability dimension is perceived by the customers as satisfying.

4.2.4. The Tangibles

To get the data on tangibles dimension, there are six items in the questionnaire. The following is the mean of the tangibles dimension

Descriptive Statistics of Tangibles

	Minimum	Maximum	Mean
1	2.0	4.0	.5526
2	2.0	4.0	.8421
3	2.0	4.0	.8158
4	1.0	4.0	.1053
5	1.0	2.0	.7895
6	3.0	4.0	.8158
Valid N (listwise)	8		2.98685

The data above shows that the mean is 2.98685. This means that they agree that they feel satisfied with the services in terms of assurance dimension

implemented in the carwash. As the mean is above 2.5 which can be considered that the tangibles dimension is considered by the customers as satisfying.

4.2.5. The Responsiveness

Responsiveness is the last part in service dimensions. To get the data on responsiveness dimension, there are four items in the questionnaire. The following is the mean of the responsiveness dimension



Descriptive Statistics of Responsiveness

	minimum	maximum	mean	
E1	8	.00	.00	.5263
E2	8	.00	.00	.7632
E3	8	.00	.00	.6316
E4	8	.00	.00	.7632
valid N (listwise)	8			.421075

The data above shows that the mean is 2.421075. This means that they agree that the responsiveness dimension is not really satisfying because the mean is less than 2.5, which can be considered that the responsive dimension is perceived by the customers as unsatisfying.

4.3 The Analysis of Empathy Dimension

In order to see the real fact of the empathy dimensions, the following will present the data one by one item. There is one item which is not discussed because it is not valid (E3).

E1 The interest of the customer is considered

	frequency	percent	valid Percent	cumulative Percent
valid	.00	1	5.3	5.3
	.00	7	4.7	10.0

E2 Requests/instructions of customers are honored

Frequency	percent	Valid Percent	Cumulative Percent
		0.5	10.5
		5.8	15.8
8		3.7	6.3
		73.7	73.7
8		00.0	100.0

The highest score is 4 meaning that there are respondents who consider that the carwash does not honor the requests/ instructions of the customers. However, the minimum score is 2 meaning that there are respondents who disagree with the statement.

The majority of the respondents (73.7%) chose 4 (strongly agree) which can be interpreted that they perceive this positively, meaning that they realize that as customers, they are honored.

E4 Service personnel provide personal attention

requirement	Frequency	Valid Percent	Cumulative Percent
1	0	0.0	0.0
2	3	5.3	5.3
3	6	6.8	12.1
4	8	10.0	22.1
5	10	12.1	34.2
6	10	12.1	46.3
7	10	12.1	58.4
8	10	12.1	70.5
9	10	12.1	82.6
10	10	12.1	94.7

The minimum score is 2 meaning that there are no respondents who chose strongly disagree. However, three people disagree that the service personnel provide personal attention.

36.85% (more than one third) and more than half (55.3%) who strongly disagree and agree that the service personnel of Yoyok carwash provides personal attention. .

E5 Customers are attended to in a friendly way.

Frequency	Percentage	Valid Percentage	Cumulative Percentage
0	0.6	0.6	0.6
1	8.9	8.9	1.6
2	8.4	8.4	100.0
3	0.0	0.0	0.0
4	0.0	0.0	0.0

The minimum score is 2 meaning that there are no respondents who chose strongly disagree and only one who chose disagree. This means that almost one hundred percent of the respondents agree that they are attended to in a friendly way.

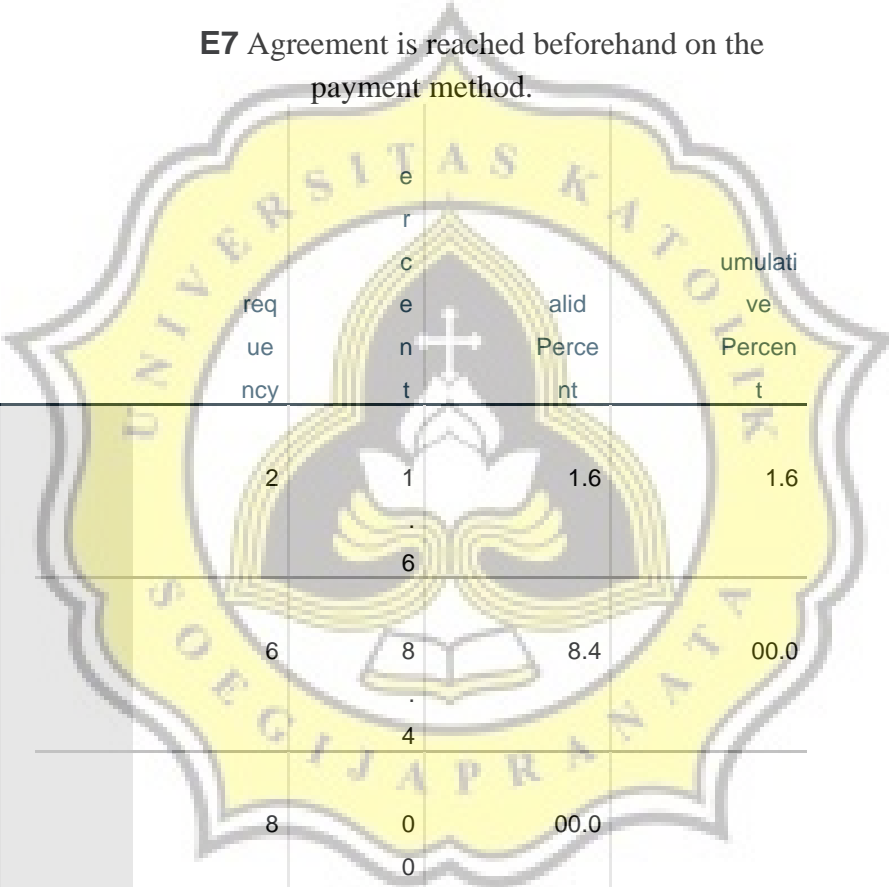
E6 Operating hours are convenient.

req ue ncy	e r c e n t	alid Perce nt	umulati ve Perce nt
	3	3.7	3.7
	7		
4	3	3.2	6.8
	2		
	3	3.2	10.0
	2		
8	0	100.0	
	0		
	0		

The highest score is 4 meaning that there are 5 respondents who chose strongly agree. However, the majority choose strongly disagree and disagree, meaning that they think that the working hours are not convenient. Yoyok carwash is open from 10 am to 4 pm. It seems that it is considered inconvenient because they may need to wash the cars after office hour or early in the morning before they go to their offices. Yoyok carwash is close on the holiday. Thus,

people who want to get the service when they are free cannot have it. This fact makes the writer thinking of running his own carwash business during the holiday and it will be open from morning to night.

E7 Agreement is reached beforehand on the payment method.



Frequency	Percentage	Cumulative Percentage
2	1.6	1.6
6	8.4	10.0
8	10.0	20.0
0	0.0	20.0
0	0.0	20.0

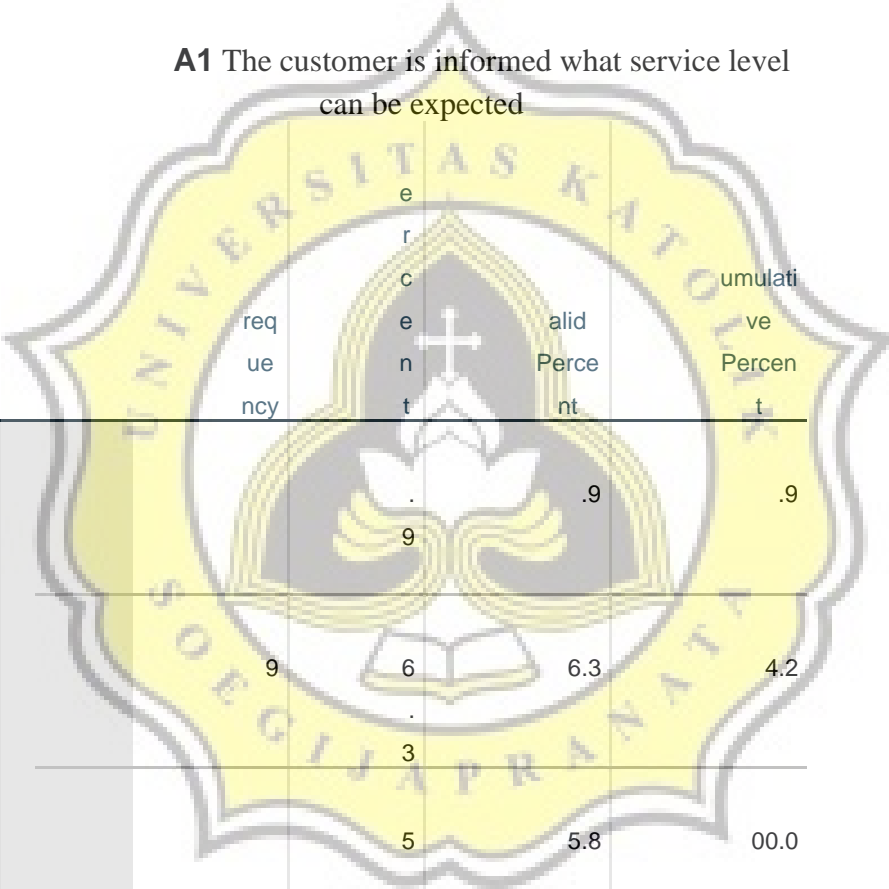
All of the respondents disagree with this statement. It means that none of the respondents make an agreement on the payment method beforehand. Based on

my observation, the payment can be done in cash or with credit cards or debit cards. They do not need to make an agreement on it as they can do it as they like.

4.4 The Analysis of Assurance Dimension

The following is the analysis of assurance dimensions. There are five items in this part.

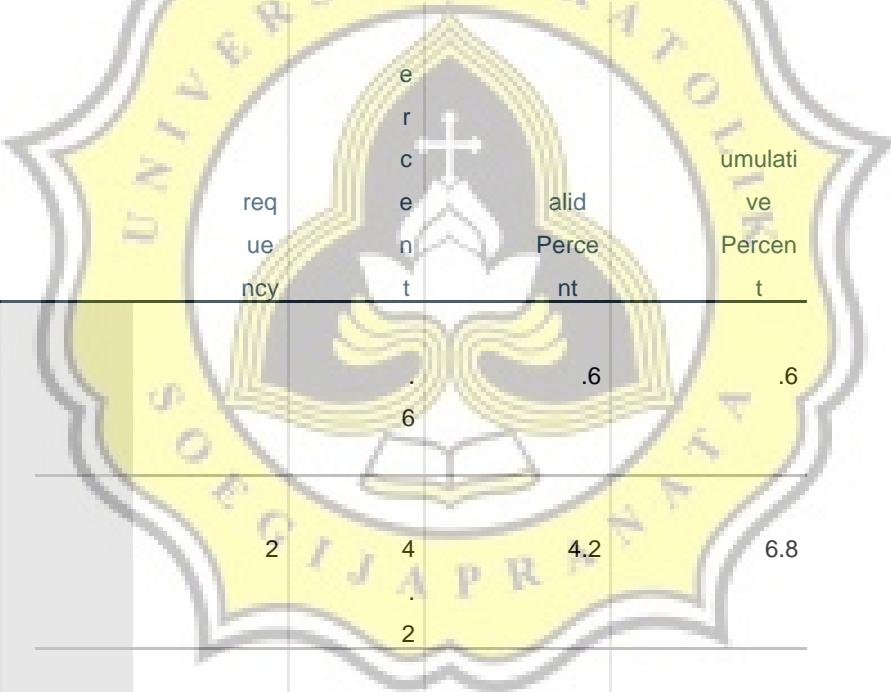
A1 The customer is informed what service level can be expected



Frequency	Relative Frequency	Valid Percent	Cumulative Percent
9	.9	.9	.9
6	6.3	4.2	
3	5	5.8	00.0
8			
8	0	00.0	
	0		
	.		
	0		

There are three respondents who chose 2 (disagree). This means that they are not informed well on the service level they can expect. However, the majority chose agree and strongly agree to the statement "The customer is informed what service level can be expected". This means that they well informed by the people in Yoyok carwash on the service level, in this case the kind of service they can get.

A2 The owner gives good advice regarding maintenance



Frequency	Percentage	Valid Percentage	Cumulative Percentage
1	0.6	0.6	0.6
2	4.2	4.2	6.8
3	3.2	3.2	10.0
4	2.0	2.0	12.0
5	0.0	0.0	12.0
6	0.0	0.0	12.0
7	0.0	0.0	12.0
8	0.0	0.0	12.0

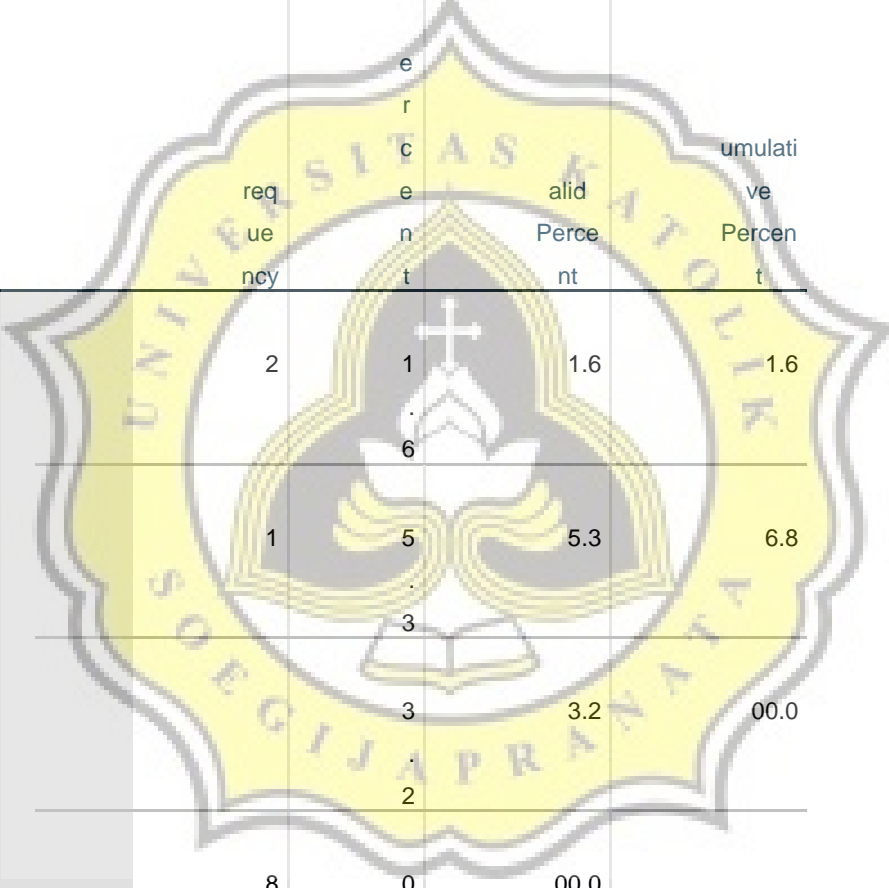
The highest score is 4 meaning that there are a small number of respondents (5 out of 38) who consider that 'The owner gives good advice regarding maintenance'. However, most of them are not advised as there are 33 out of 38 (86.8%) who chose disagree or strongly disagree.

A3 Employees are courteous

Frequency	Percentage	Valid Percentage	Cumulative Percentage
1	13.2	34.2	34.2
2	4.2	10.5	44.7
3	20.0	52.6	65.3
4	0.5	1.3	66.6
5	0.0	0.0	66.6
Total	38	100.0	

There are three respondents who chose 2 (disagree). This means that they are not informed well on the service level they can expect. However, the majority chose agree and strongly agree to the statement” Employees are courteous”. This means that they consider that the employees are courteous.

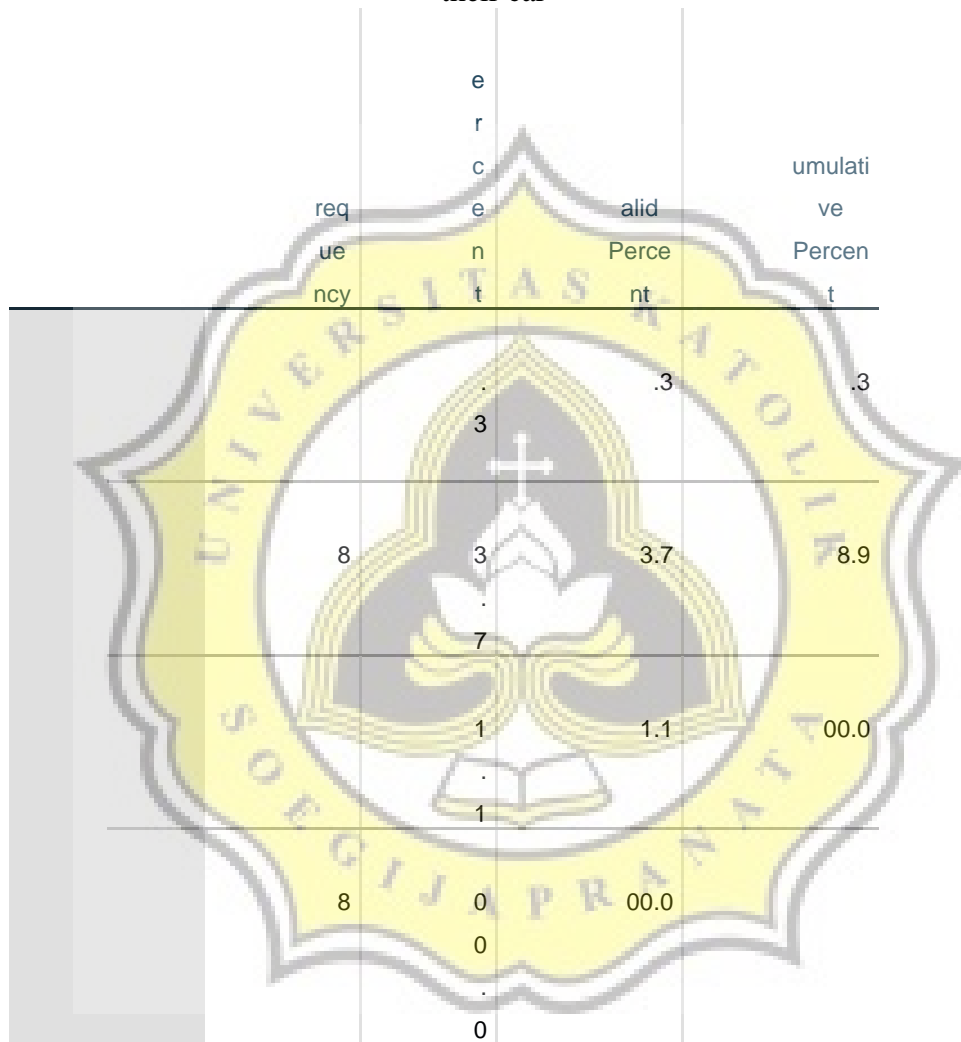
A4 The car wash has competent employees



Frequency	Percentage	Valid Percentage	Cumulative Percentage
2	16.7	1.6	1.6
1	50.0	5.3	6.8
3	33.3	3.2	10.0
2	16.7	0.0	10.0
8	0.0	0.0	10.0

There are five respondents who chose 4 (strongly agree) and 21 (55.3%). This means that majority chose agree and strongly agree to the statement” The car wash has competent employees”. This means that they are satisfied with the service given. In this case, the kind of service they can get.

A5 Customers know which employee washes their car

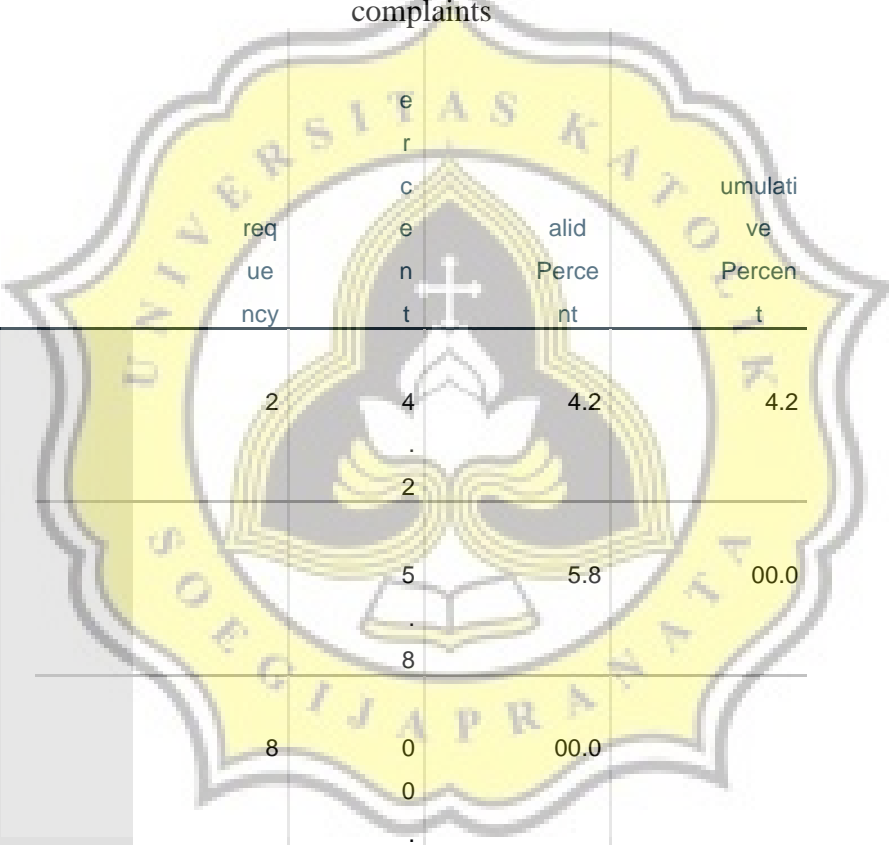


There are 21.1% respondents who chose 5 (agree) and 21 (55.3%) chose strongly agree. This means that majority chose *agree and strongly agree* to the statement "Customers know which employee washes their car". They know the employees that wash their cars because when there are some employees who are available, they can choose. However, there are not many who do it as what I have observed.

4.5 The Analysis of Reliability Dimension

The following is the analysis of reliability dimensions. There are five items in this part.

R1 The owner focuses on solving customer complaints



Frequency	Percentage	Valid Percentage	Cumulative Percentage
2	4.2	4.2	4.2
2	4.2	8.4	8.4
5	9.5	13.7	18.2
8	15.4	29.1	33.6
8	15.4	44.5	49.0
0	0.0	44.5	49.0
0	0.0	44.5	49.0
0	0.0	44.5	49.0

The highest score is 4 meaning that there are 6 respondents who chose strongly agree. However, the majority (84.2%) chose disagree, meaning that they think that *The owner focuses on solving customer complaints*. Based on my

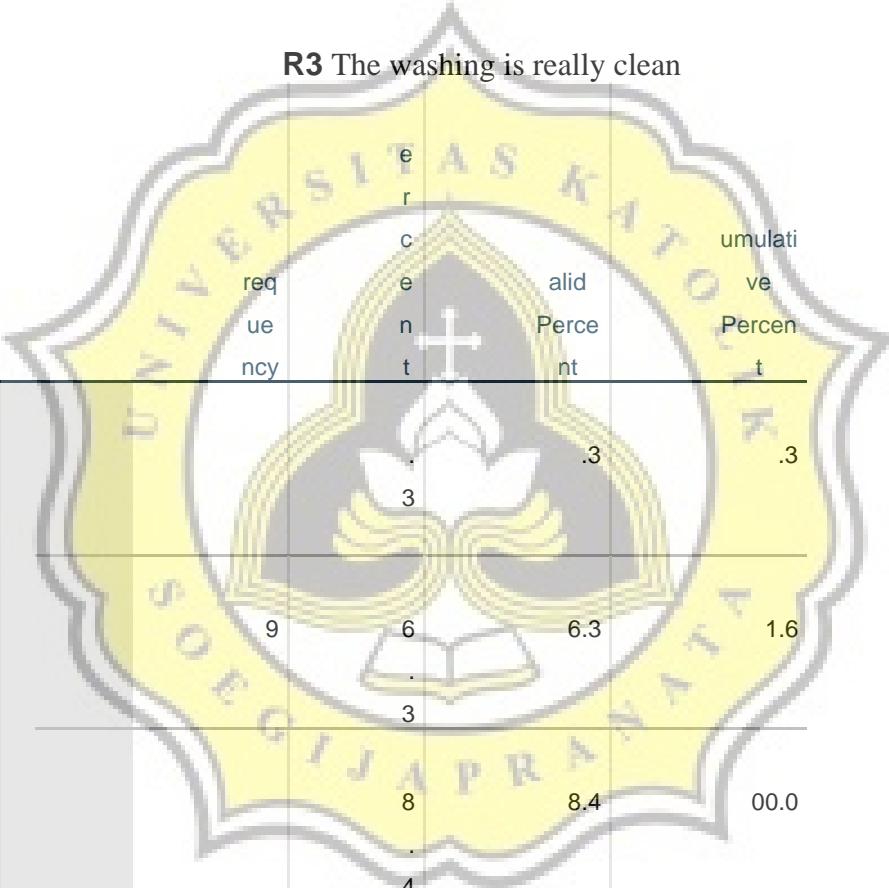
observation I found that the owner is always in the place to listen to the complaints of the customers.

R2 The service personnel are reliable

Frequency	Relative Percentage	Percentage	Cumulative Percentage
3	3.2	3.2	3.2
8	3.7	6.8	
7	0.5	7.4	
5	.6	00.0	
6			
8	0	00.0	
	0		
	.		
	0		

The highest score is 4 meaning that there is a respondent who considers that *The service personnel are not reliable* and 4 people chose disagree. The majority of the respondents (13.2% and 73.7%) disagree that the personnel are reliable. They think the service personnel are not reliable.

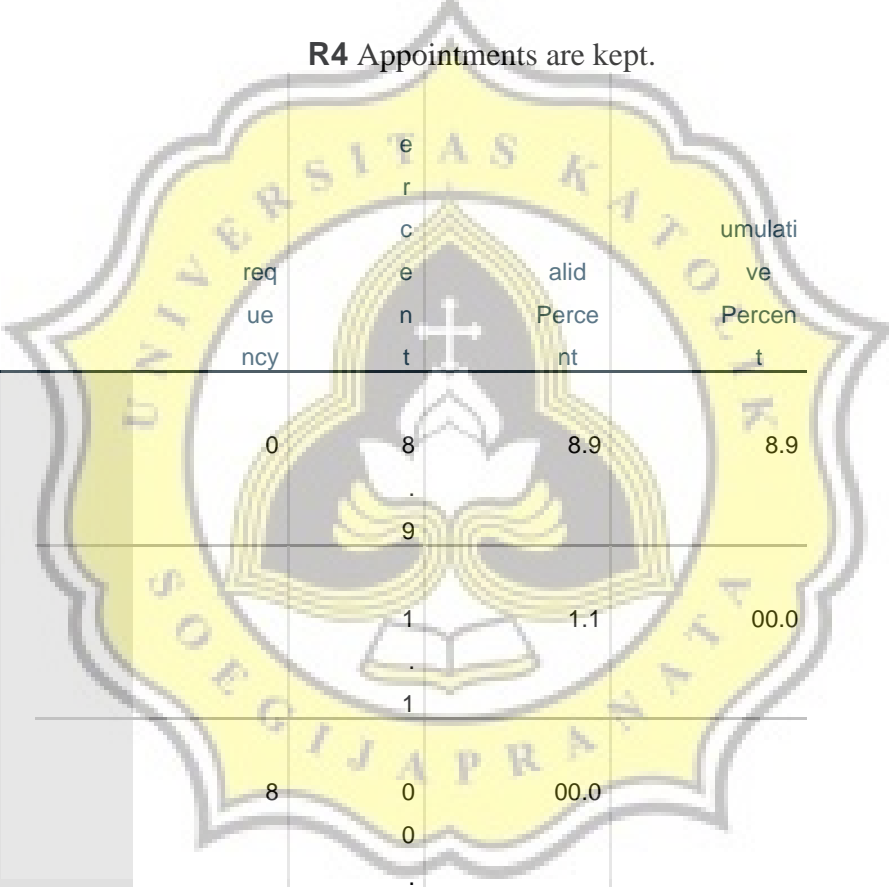
R3 The washing is really clean



Frequency	Percentage	Valid Percentage	Cumulative Percentage
3	3.3	3.3	3.3
9	9.6	6.3	1.6
3	3.3		
8	8.4	00.0	
4	4.4		
8	8.0	00.0	
	0		
	0		
	.		
	0		

The majority of the respondents (13.2% and 73.7%) disagree that. *The washing is really clean.* It is interesting that although they think that the washing is not really clean but they still go there to wash their cars there. It seems that because they give good price, people go there.

R4 Appointments are kept.



Frequency	Percentage	Valid Percentage	Cumulative Percentage
0	8.9	8.9	8.9
1	1.1	1.1	10.0
2	0.0	0.0	10.0
3	0.0	0.0	10.0

All respondents agree that appointments are kept. When they choose to get the service of washing the car, they get it. For example when they chose to get the service for the interior cleaning, they get it. This means that the appointments are kept.

R5 The washing is finished at the promised time

Frequency	Percentage	Valid Percentage	Cumulative Percentage
3	5.3	5.3	5.3
20	52.6	57.9	63.2
46	68.8	66.8	72.5
3	3.3	66.8	75.8
8	20.0	66.8	95.8
0	0.0	66.8	95.8
0	0.0	66.8	95.8
0	0.0	66.8	95.8


More respondents chose 1 and 2 (5.3% and 52.6%). It means that they disagree that *The washing is finished at the promised time*. However, the number of respondents who agree is also quite high. Thus, it can be interpreted that actually they are failed to finish the washing at the promised time. Besides, it can

be interpreted that when they say that the washing will be finished in the afternoon, it will be finished at that time.

4.6. The Analysis of Tangibles Dimension

The following is the analysis of tangibles dimensions. There are five items in this part that are valid.

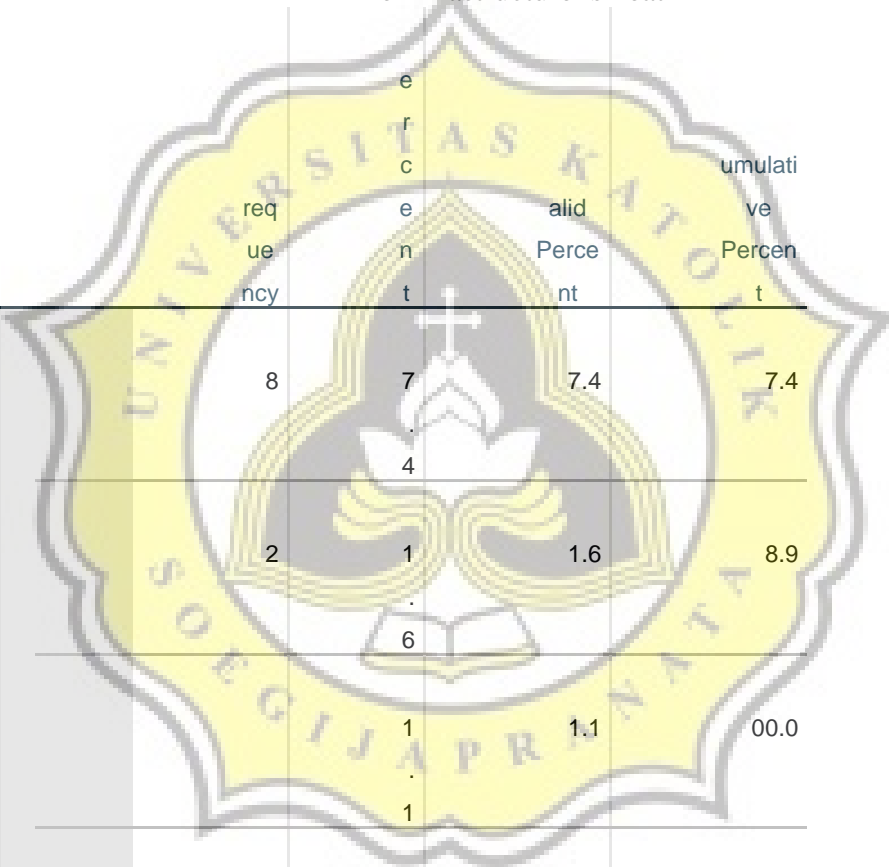
T1 There is clear signage at the carwash



Frequency	Percentage	Valid Percentage	Cumulative Percentage
0	0.5	0.5	
5	5.8	6.3	
8	3.7	10.0	
10	0.0	10.0	
10	0.0	10.0	

The table shows that most respondents chose agree and strongly agree. This means that they know that there is a signage at the carwash. However, there are also 4 respondents who do not know that there is clear signage at the carwash. Maybe, they think that the signage is not clear.

T2 The infrastructure is neat



Frequency	Percentage	Valid Percentage	Cumulative Percentage
8	74.0	74.0	74.0
2	16.7	16.7	89.7
1	8.3	8.3	100.0
1	8.3	0.0	100.0

The table shows that the lowest score is 2. This means that most respondents disagree *The infrastructure is neat*. Based on the writer's observation, it is true that the infrastructure is not neat.

T3 There is sufficient space to sit in the waiting area

Frequency	Percentage	Valid Percentage	Cumulative Percentage
0	0.0	0.0	0.0
2	20.0	20.0	20.0
4	40.0	40.0	60.0
6	60.0	60.0	100.0

The table shows that the highest score is 4. This means that there are respondents who agreed that *There is sufficient space to sit in the waiting area*. Based on the writer's observation, the waiting room is quite large but it cannot accommodate many customers. There are around 10 chairs in the waiting room.

T4 The owner's grounds are neat .

req ue ncy	e r c e n t	alid Perce nt	umulati ve Perce nt
	3	.3	.3
3	68	6.8	2.1
	9	.9	00.0
8	00	00.0	
	0		

The table shows that the lowest score is 1. This means there are respondents who strongly disagree that *The owner's grounds are neat*. Most respondents (86.8%) disagree that *The owner's grounds are neat*. Based on the writer's observation, it is true that the owner's ground are neat. There are many stuffs here and there.

T5 Employees are well groomed.

requirement	Frequency	Valid Percent	Cumulative Percent
	1	1.1	1.1
	1		
	0	8.9	00.0
	8	00.0	
	0		
	0		

All respondents agree that Employees are not well groomed. Although the employees wear uniforms, they are wet and dirty because they have to wash the cars. It is impossible that they can be well groomed.

4.7 The Analysis of Responsiveness Dimension

The following is the analysis of responsiveness dimensions. There are four items in this part.

RE1 The telephone is answered promptly.

req ue ncy	e r c e n t	alid Perce nt	umulati ve Percen t
8	7	7.4	7.4
0	2	2.6	00.0
8	0	00.0	
0	0		

All respondents disagree that *The telephone is answered promptly*. Based on the writer's observation, the employee and the owner cannot handle the telephone call. Usually, they have to serve the customers who come so that they cannot answer the phone right away. However, the way they answer the phone is good. They show their hospitality by greeting the callers.

RE2 Complaints are dealt with quickly.

req ue ncy	e r c e n t	alid Perce nt	umulati ve Percen t
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		0	0.5	0.5
		5		
7	4		4.7	5.3
	7			
6	2		2.1	7.4
	1			
	6		.6	00.0
8	0		00.0	
	0			
	0			

Almost the same number of people who agree and agree with the statement *Complaints are dealt with quickly*. It seems that some of them feel satisfied but some others do not feel satisfied. It seems that they have different experiences.

RE3 The customer receives prompt attention on arrival

		e		
		r		
		c		umulati
req		e	alid	ve
ue		n	Perce	Perce
ncy		t	nt	t

	4	3 . 2	3.2	3.2
	4	6 . 8	6.8	00.0
	8	0 0 . 0	00.0	

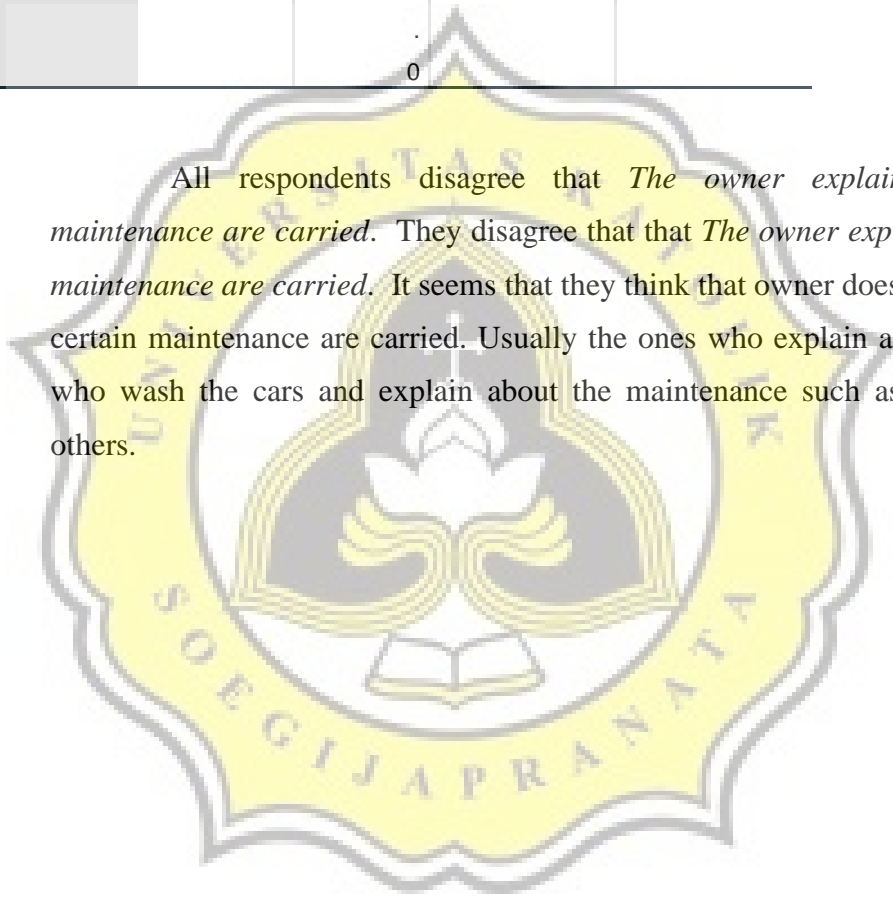
All respondents agree that *The customer receives prompt attention on arrival*. Based on the writer's observation, when they come to get the service of washing the car, they are greeted by the female employees

RE4 The owner explains why certain maintenance are carried

	req ue ncy	e r c e n t	alid Perce nt	umulati ve Perce nt
	1	8 . 9	8.9	8.9
	6	8 . 4	8.4	7.4

		.6	00.0
	8	00	00.0
		0	

All respondents disagree that *The owner explains why certain maintenance are carried*. They disagree that that *The owner explains why certain maintenance are carried*. It seems that they think that owner does not explain why certain maintenance are carried. Usually the ones who explain are the employees who wash the cars and explain about the maintenance such as the wipers and others.



4.3 The Analysis of Empathy Dimension

In order to see the real fact of the empathy dimensions, the following will present the data one by one item. There is one item which is not discussed because it is not valid (E3).

E1 The interest of the customer is considered

Frequency	Percent	Valid Percent	Cumulative Percent
21	55.3	55.3	55.3
17	44.7	44.7	100.0
38	100.0	100.0	

Based on the data above it can be seen that more respondents think that the carwash under the study does not really consider the customers' interest as there are more than half of the respondent (55.3%) disagree that the carwash considers the interest of the customers.

E7 Agreement is reached beforehand on the payment method.

Frequency	Percent	Valid Percent	Cumulative Percent
2	1	1.6	1.6

