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Assessing Customer Satisfaction of Automotive Service Centre using SERVQUAL: A Case Study of Daihatsu Service Centre Bandung, Indonesia

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Abstract

Introduction: Automotive industry is connected with many aspects of car ownership in which after-sale service being inseparable with the product. Maintenance and repair has become a service that comes intact with the car sales, which usually is offered through the authorized service centre. The objective of this paper is to detect service quality dimensions of auto repair service, determine the dimension of SERVQUAL that affects customer satisfaction on Daihatsu Service Centre, and measure the gap between customer's perceived service quality and their expectation. The study used the 22-items of service quality measurement by Berry, Parasuraman and Zeithaml (1988), SERVQUAL. The items are adapted to the automotive service centre context, by combining the result of previous research in the automotive industry and the service design of the study object. It consists of 22-item questionnaire that portrays five dimensions, which are responsiveness, assurance, tangibles, empathy, and reliability. 100 customers were sampled from the auto repair location. Data is obtained using SERVQUAL questionnaire. Validity/reliability test, factor analysis and gap value analysis was done to analyse data. The results indicate that there are 7 distinct factors found in auto repair service quality which are relabelled as Service Design, Customer Relationship, Trust, Attentiveness, Sincerity, Customer Priority, and Convenience. The analysis also shows that Service Design is the most important dimension of service attributes by 32.27% of explaining factor. Convenience is considered to be the factor that still needs improvement because of minus gap value, while sincerity is considered as the dimension which has highest satisfaction.

Keywords: SERVQUAL; Service Quality; Customer Satisfaction; Gap Score Analysis; Factor Analysis; Auto Repair Management; Car Maintenance Management

1. Introduction

The number of automobiles in Indonesia has been increasing over the years, and this offers growth for automobile business in busy cities, such as Bandung. Automotive industry is connected with many aspects of car ownership in which after-sale service being inseparable with the product. Maintenance and repair has become a service that comes intact with the car sales, which usually is offered through the authorized service centre. This study will focus on a service; for example, an auto repair/maintenance service provided by a major auto industry called Daihatsu Service Centre (DSC) located in Bandung, Indonesia.

Understanding service quality is a great deal in order to grow and develop in service business. Through service quality, every attribute is evaluated from customer's perspective, and understanding how customers perceived the service from their experience. Knowing what the customers expect and what they received is a key to service business.

Previous literature reveals that many studies had been conducted to measure customer satisfaction for services, but few have specifically covered auto repair business. This paper aims to focus on customer satisfaction of auto repair service centre located in Bandung, analysing it through five dimensions of service quality proposed by Berry, Parasuraman and Zeithaml (1988). Difference between perception and expectation of customers will indicate the customer satisfaction level. Findings should also determine the dimension of SERVQUAL that has the most importance on customer satisfaction at Daihatsu Service Centre.

2. Literature Review

2.1. Definitions of Customer Satisfaction

Studies suggest that customer satisfaction is closely linked to service quality. As suggested by researchers in the past (Parasuraman et al., 1985; Patterson et al., 1996; Paina et al., 1996; Krivobokova, 2009) a sense of satisfaction is felt by customer when a product/service has fulfilled certain expectations by customers, prior purchase. This gap is known by a popular term called "perceived service quality" (Parasuraman et al., 1985) in the popular PZB model of service quality. Other condition may occur if the expectations were not fulfilled, thus a customer will not feel "satisfied". By measuring the value of both expectation and perception, and calculating the gap between those values, "perceived service quality" will be obtained and in this study this term could also be referred to as "satisfaction". This way, a service provider will have

clearer insight of which service attributes should be improved to gain competitive advantage in the market.

2.2. SERVQUAL

SERVQUAL is a popular questionnaire instrument used by many researchers to get better understanding of service quality. The scale contains five key measures that were found when the researchers held focus group discussion. Regardless of the service, customers will tend to use similar criteria in evaluating the service. There are originally ten groups of categories (1985), then five levels (1988) which are commonly abbreviated as RATER (Mauri et al., 2013):

Reliability: capability of the firm to perform the promised service in a careful and accurate manner

Assurance: competence and politeness of the personnel, capability to inspire confidence

Tangible aspects: aspects of physical facilities, equipment and personnel

Empathy: personalized assistance that the firm conveys to its customers

Responsiveness: willingness of the firm to help customers and perform the service promptly

It consists of two pairs of statement sets. Each set consists of 22-items covering all of five dimensions. The first set will measure expectation of customer, where a customer thinks of what the service "should" have instead of their real expectation (Berry, Parasuraman & Zeithaml, 1988) and the other set is to measure their perception after they have already received the service.

Satisfaction score will be obtained by a formula of perception minus expectation. Minus score means the expectation is greater than perception, thus dissatisfaction. Zero means the perception meets expectation, but did not exceed it. Value above zero means the perception exceeds what the customer had expected.

2.3 Service Quality in Automotive Industry

Automotive industry, just like any other industry, has distinct characteristics and issues which are more critical compared to others (Garrant, 2009; Bouman et al., 1992; Andaleeb & Basu, 1994). Andaleeb and Basu (1994) changed two dimensions in SERVQUAL to fit the automotive service assessment alone, which are fairness and convenience. There are also some

items from the dimensions of SERVQUAL that needs to be eliminated and some additional items that need to be introduced (Rodrigues, 2001; Pereira et al., 2007; Garrant, 2009).

A number of literatures reveal that SERVQUAL could still be applicable for evaluating automobile service (Shuqin et al., 2011; Al-Shammari et al., 2014). These studies used SERVQUAL exactly like it was stated in the past literature by Berry, Parasuraman and Zeithaml (1988). All five dimensions of RATER are mentioned in the survey and it consists of 48 items, a pair of 22 items to measure customer perception and expectation. In conclusion, all of SERVQUAL items could still be used without any changes for automotive service industry, but factor analysis could be conducted later on to discover new or additional dimensions that may adjust the supporting factors of service at an auto repair service location.

3. Research Method

A sample of 100 customers was selected at Daihatsu Service Centre (DSC) located in Bandung. Sample was taken from one location only, and that is the auto repair shop located in Soekarno Hatta Street.

Respondents were chosen through convenience sampling and were asked to fill in SERVQUAL questionnaire that has been designed specifically for the service provider. The questionnaire was designed to fit the service design and facilities offered by the service provider as their competitive advantages. All five dimensions from SERVQUAL are represented with indicators. The indicators consisted in the modified SERVQUAL questionnaire is listed in Table 1.

Table 1: SERVQUAL dimensions with respective questionnaire indicators

No	Codes	Indicators and Dimensions
		TANGIBLES
1	T1	Updated equipment
2	T2	Comfort and hygiene of service area/facility
3	T3	The appearance of employees (neat and well dressed)
		RELIABILITY
4	RL1	Accuracy of service advisor (SA) in serving customers
5	RL2	The time taken for service delivered is as promised
6	RL3	Showing sympathy and act reassuring when customer have problems
7	RL4	Dependability of the repair/maintenance service provided

		by DSC
8	RL5	Availability of the spare parts needed
9	RL6	Accuracy in keeping customer records
		RESPONSIVENESS
10	RS1	Information given about when the service will be worked on
11	RS2	Prompt service from employees
12	RS3	Willingness of employees to help customers
13	RS4	Employees too busy to give accurate response (-)
		ASSURANCE
14	A1	Trustworthy employees
15	A2	Reasonable cost of car repair/maintenance and spare parts
16	A3	Politeness of DSC employees
17	A4	Support given from DSC to ensure employees do their job well
18	A5	Guarantee after-service
		EMPATHY
19	E1	Personal attention given from employees toward customers
20	E2	Interaction with customers to know their needs
21	E3	Customer has best interest at heart
22	E4	Convenient operating hours for customers

Respondents were asked to fill in the questionnaire which consists of two sets of statements representing indicators. The first set indicates expectation of customers which refers to what they think DSC should offer to the customers, and the second set measures the perceived service, that is after they have already experienced the service. The responses are recorded in Likert scale from 1 (strongly disagree) to 5 (strongly agree).

Data from respondents are then analysed by using SPSS 20 for Windows. First, the data will be tested of its reliability and validity by generating Cronbach Alpha value from each five dimensions and internal correlation results. The value of Cronbach Alpha should be no less than 0.7 to be used as reliable research instrument and the internal correlation results should show consistency of items when correlated with one another.

The next step of data analysis was to do factor analysis, to evaluate the dimensions of service quality according to the perception of respondents from DSC, therefore giving insights of how Indonesian customers perceive service quality attributes of auto repair shop. The items from

SERVQUAL were regrouped based on similarities that was generated from respondents. The findings from this dimension reduction should also give better interpretation of the sample perception, since this research involves small number of sample. Factor analysis should also generate the important degree of each dimension through the factor's variance explanation. The percentage of variance determines the degree of importance for each dimension.

The last analysis would be gap value analysis in which the mean values of each dimension would be calculated using the perceived service quality formula (Berry, Parasuraman and Zeithaml, 1988) to generate gap value for each dimension. The value would give better understanding of how DSC performs in terms of service quality according to respondents' perception. Gap value would also deliver knowledge of which dimension will that need improvement or in which dimension should management focus on.

4. Data Results

4.1 Demographic Data

The demographic profiles of the respondents are presented in Table 2. In terms of gender, most of the respondents (84%) were male and 16% were female. The respondents have similar majority of age ranging between 20-30 years old (30%) and 31-40 years old (29%). The percentages are followed with respondents in 41-50 years old age range by 27%, greater than 50 years old by 10%, and lastly less than20 years old by 4%. This indicates that the majority of the respondents are still in their productive years.

As for the education level, almost half of the respondents had bachelor degree (45%), and 30% graduated from senior high school. Diploma graduates and post-graduate degrees shared the same percentage of 9% of sample. 4% of the respondents were junior high school graduates, 3% had other education levels. This indicates that majority of sample had considerably high education level.

In terms of occupation, most of the respondents worked for private company as employees (60%), 18% worked as civil servant, 16% stated others for their occupation, 5% were college students, and only 1% was student.

For their monthly income, majority of respondents chose less than 10 million IDR per month (68%), 29% answered 10-20 million IDR, and 3% had more than30 million IDR monthly income.

The last item on determining respondent characteristics was monthly expense for car repair/maintenance. Most of the respondents admitted that they had 100,000-1 million IDR for car maintenance expense (72%), 18% of respondents spent 1-2 million IDR, 8% spent less than 100,000 IDR, and only 2% spent less than 2 million IDR.

Table 2: Respondents demographic profile (n=100)

Gender	%
Male	84
Female	16
Age	%
20-30	30
31-40	29
41-50	27
>50	10
<20	4
Education level	%
Bachelor degree	45
Senior high school graduate	30
Diploma	9
Post-graduate degree	9
Junior high school graduate	4
Others	3
Occupation	%
Private company employee	60
Civil servant	18
Others	16
College student	5
Student	1

Income/month (in IDR)	%
< 10 million	68
10-20 million	29
> 30 million	3
Monthly expenses for car repair/maintenance (in IDR)	%
100,000-1 million	72
1-2 million	18
> 100.000	8
> 2 million	2

Based on the demographic profile, respondents involved are mostly highly educated group of individuals in productive age range. Majority of them (60%) are still working actively to earn monthly income and considered to be in middle to high social class. Respondents mostly have budget for the lowest range of expense for their car repair/maintenance issue, this could be caused by the ownership of the car, or their right as customers to have free check-up from DSC upon purchase.

4.2 Validity and Reliability Test

The questionnaire items were tested using reliability and validity test through SPSS 20 for Windows to ensure that the instrument is applicable. Reliability refers to the extent of which measurement could yield consistent responses each time it is applied (Straub et al., 2004). Cronbach alpha value indicates the degree of reliability, with value of 0.7 considered as reliable (Straub et al., 2004). Reliability for each items consisted in the questionnaire was tested for each dimensions respectively. Table 3 shows the reliability test result of all five SERVQUAL dimension items consisted in questionnaire. All of the dimensions tested had Cronbach Alpha values higher than 0.7 and this implies that all of the items could be used to generate consistent responses.

Validity is explained as the representativeness of the items with the true dimension

intended to be measured (Straub et al., 2004). Validity is tested through internal correlation of all the items in the questionnaire. Based on the analysis results, all of the items are considered valid and therefore, could be used as instrument in this research.

Table 2: Reliability test result

Dimensions	Number of items	Cronbach Alpha
Tangibles (T)	3	0.848
Reliability (RL)	6	0.897
Responsiveness (RS)	4	0.744
Assurance (A)	5	0.813
Empathy (E)	4	0.855

4.3. Factor Analysis

4.3.1. Regrouping of Items

Factor analysis was used as one of the tools in this research to determine any underlying factors that could be investigated through responses given from sample. This analysis condenses similar statements into one group of dimension which has latent relations, thus providing better interpretation of how DSC customers perceive service quality. Through this analysis, responses toward the SERVQUAL items could give depiction of service quality at DSC according to respondents.

In order to observe items in similar characteristics, it was observed through its factor loading. Factor loading was described as the degree of relationship between items analysed and the factor it belongs to, in terms of similar responses given. Highest factor loading value would determine the association between each item and the factor it belongs. Factor analysis generated factor loading scores shown in Table 4.

Table 3: Item factor loading

	Factor						
	1	2	3	4	5	6	7
T1	.714	.222	.239	.112	.040	.051	.072
T2	.781	-.087	.068	-.011	.061	.332	.120

T3	.814	.139	.112	.191	.103	-.069	.117
RL1	.503	-.107	-.259	.168	.400	.190	.265
RL2	.332	.131	.222	.127	.122	.060	.661
RL3	.396	.472	.059	.127	.484	-.085	.215
RL4	.557	.182	.271	.264	.488	.108	-.054
RL5	.361	.229	.438	.171	.061	.285	.160
RL6	.386	.198	.635	.189	.091	.110	-.109
RS1	.060	.184	.189	.059	-.073	.742	.099
RS2	.077	-.287	.172	.251	.442	.563	.161
RS3	.116	.057	.131	.075	.812	.041	.104
RS4	.045	.010	-.046	.007	.078	.084	.861
A1	-.031	.271	.647	-.003	.444	.132	.108
A2	.132	-.080	.741	.285	.024	.119	.082
A3	.143	.255	.226	.640	.407	.200	-.064
A4	.137	.087	.313	.806	-.058	.045	.090
A5	.109	.764	-.028	.139	.002	.008	.092
E1	.152	.153	.021	.746	.150	.155	.073
E2	.027	.709	.382	-.006	.220	.144	-.052
E3	.255	.340	.048	.218	.217	.645	-.022
E4	.106	.686	.101	.254	-.024	.339	.018

There are 7 components that generated from responses given towards 22 items of SERVQUAL. The items have been listed previously in Table 1. Each of the items has factor loading scores for every factors, and the highest factor loading would indicate the strongest relation of the factor.

According to the strongest association for each factor, items were grouped separately to be observed in more detailed manner compared to previous SERVQUAL dimensions. This is possible because at this point, underlying components has been formed. Each component represents distinct underlying characteristics of service quality at DSC.

Factor 1 is a component consisting of tangibles and reliability items, which are T1 (0.714), T2 (0.781), T3 (0.814), RL1 (0.503), and RL4 (0.557). Tangible items represent all of the facility and visual appearance of service location and employees. Tangible items are: updated equipment

(T1), comfort and hygiene of service area/facility (T2), and the appearance of employees (T3). This dimension consists of all of the tangible items in, which is part of DSC service outlook and main standard of DSC outlets in Indonesia. Reliability items are: the accuracy of the service advisor in serving customers (RL1) and dependability of the service carried out (RL4), whether it matches the complaint by customers. The reliability items in this component focus on service delivery and deliver of accurate performance towards customers. Therefore, factor 1 is a mixture between visual appearance and the accuracy of service that could be included in service concept. It also covers matters regarding standard of accuracy and facilities that could support the service delivery, therefore this dimension is labelled as "*Service Design*".

Factor 2 had assurance and empathy items in the previous dimension, which are A5 (0.764), E2 (0.709) and E4 (0.686). A5 represents guarantee after-service, E2 indicates interaction done between employee and customer to know their needs, and E4 is the statement representing the convenient operation hours for customers. All of the items are focusing on the efforts made to maintain a good relationship with customers through sympathy and operational strategy, therefore this dimension is labelled as "*Customer Relationship"*.

Factor 3 is composed of reliability and assurance items, which are RL5 (0.438), RL6 (0.635), A1 (0.647), and A2 (0.741). Reliability is: the availability of spare parts the customers need (RL5), the scale of accuracy of the records kept by the company through SA (RL6). Assurance is: trustworthiness of the employees (A1) and reasonable cost of repair or spare parts for customers (A2). All of the items consisted in this new dimension represents trust towards the service provider; therefore it is label under "*Trust*".

Factor 4 had assurance and empathy items, which are A3 (0.640), A4 (0.806), and E1 (0.746). The assurance items are: politeness of DSC employees (A3), and support given from DSC to ensure that the employees do their job well (A4). Other than assurance items, there is also empathy item which represents personal attention given by employees (E1). These items symbolizes attention from company as a whole (both managerial and personnel) to maintain customer satisfaction, therefore it is labelled under "*Attentiveness*". This term is referred as the company's effort of paying attention. This is done to support its capability in nurturing customer relationship.

Factor 5 is a mixture of reliability and responsiveness. The component consists of RL3 (0.484) and RS3 (0.812). RL3 represents the degree of sympathy and reassurance shown by

employees towards customers' problems. This attitude is similar to what RS3 indicates, which is the willingness of employees to help customers. Both items represents the sincerity of employee in serving customers, therefore the dimension is labelled "*Sincerity*".

Factor 6 is a new dimension consisting of responsiveness and empathy items, which are RS1 (0.742), RS2 (0.563), and E3 (0.645). Responsiveness items are: The certainty of when the service (repair/maintenance of car) will be worked on in order (RS1) and the prompt service conducted by the employees (RS2). The empathy item is represented by the best interest of customers toward the service provider (E3). All of the items have priority factors in terms of service; hence, it is labelled as "*Customer Priority*".

The last factor that emerged from the analysis was factor 7 and it consists of two items from reliability, and responsiveness. RL2 (0.661) signifies the consistency of the company in keeping commitments, in term of service time. Meanwhile, RS4 (0.861) is a negative statement concerning on how the employees deal with peak times by not neglecting customers, thus giving them accurate response to their requests. These two items both concerns time and effort customers had to spend in order to acquire the service, and based on Andaleeb and Basu (1994) this could be referred as "*Convenience*".

It could be concluded that through factor analysis, new five dimensions consisting a mixture of RATER items were generated, and two dimensions were retained. The grouping was done by the system based on similar characteristics that were perceived by respondents of DSC on how they rate service quality attributes.

Table 5 shows the new relabelled dimensions from 22 items SERVQUAL questionnaire. These new dimensions represent distinct characteristics from one another and in this research; there are seven dimensions that emerged after the analysis was done. Among them, there are also several retained dimensions generated from dimension reduction of factor analysis. Since there are new dimensions emerged, it was relabelled intuitively according to respective items in each dimension.

Table 4: Regrouping of items

Factors	Relabeled Dimensions	Consisting Items	
1	Service Design	T1	Updated equipment
		T2	Comfort and hygiene of service area/facility

		T3	The appearance of employees (neat and well dressed)
		RL1	Accuracy of service advisor (SA) in serving customers
		RL4	Dependability of the repair/maintenance service provided by DSC
2	Customer Relationship	A5	Guarantee after-service
		E2	Interaction with customers to know their needs
		E4	Convenient operating hours for customers
3	Trust	RL5	Availability of the spare parts needed
		RL6	Accuracy in keeping customer records
		A1	Trustworthy employees
		A2	Reasonable cost of car repair/maintenance and spare parts
4	Attentiveness	A3	Politeness of DSC employees
		A4	Support given from DSC to ensure employees do their job well
		E1	Personal attention given from employees toward customers
5	Sincerity	RL3	Showing sympathy and act reassuring when customer have problems
		RS3	Willingness of employees to help customers
6	Customer Priority	RS1	Information given about when the service will be worked on
		RS2	Prompt service from employees
		E3	Customer has best interest at heart
7	Convenience	RL2	The time taken for service delivered is as promised
		RS4	Employees too busy to give accurate response (-)

4.3.2. Importance of Dimension

Factor analysis also ranks the importance of the new 7 dimensions towards the service quality in general. This is analysed using the explanation power of each dimension. The result of

variance explanation is shown in Table 5.

Table 5: Variance of factors explained

Factors	Dimension	Initial Eigen value		
		Total	% of Variance	% of Cumulative
1	Service Design	7.099	32.27	32.270
2	Customer Relationship	1.969	8.952	41.222
3	Trust	1.481	6.732	47.954
4	Attentiveness	1.275	5.793	53.747
5	Sincerity	1.193	5.424	59.172
6	Customer Priority	1.121	5.093	64.265
7	Convenience	1.019	4.631	68.896

Factor 1 (Service Design) has the highest percentage of explanation power (32.27%) and this implies that service design is the most important dimension in service attributes (Wu, Chang, Lee, & Lin, 2011). The percentage in most important order is followed by customer relationship (8.952%), trust (6.732%), attentiveness (5.793%), sincerity (5.424%), customer priority (5.093%), and convenience (4.631%).The total cumulative percentage of these seven factors is 68.869% of total variance.

4.4 Gap Value Analysis

Gap value is calculated using the formula (Berry, Parasuraman and Zeithaml, 1988) of: $Q = P – E$.

Gap value indicates the distance of gap between perception and expectation. Zero value indicate no gap, value below zero indicates that the expectation is higher than perception. Such value might be negative indicator for firm because it means customer has not met their expectations, yet. Dimensions that have gap value below or zero should have more attention from firm. On the contrary, value above zero represents higher perception which refers to satisfaction. Table 7 shows all of the mean scores of the seven dimensions.

According to the results, convenience dimension has gap value below zero (-0.005).RL2 that indicates the time taken for service to be done is low in satisfaction. This means

that customers consider DSC took too long to deliver their service, or too long than promised.

Table 6: Mean gap values

Dimensions	Items	Perception (P)	Expectation (E)	Q=P-E
Service Design	T1	3.96	3.99	-0.03
	T2	4.26	4.19	0.07
	T3	4.23	4.18	0.05
	RL1	4.07	4.1	-0.03
	RL4	4.14	4.17	-0.03
Average		4.132	4.126	0.006
Customer Relationship	A5	4.05	4.09	-0.04
	E2	4.18	4.12	0.06
	E4	4.15	4.05	0.1
Average		4.127	4.087	0.040
Trust	RL5	4.07	4.13	-0.06
	RL6	4.2	4.23	-0.03
	A1	4.08	4.02	0.06
	A2	3.98	3.95	0.03
Average		4.083	4.083	0.000
Attentiveness	A3	4.32	4.28	0.04
	A4	4.13	4.06	0.07
	E1	4.04	4.00	0.04
Average		4.163	4.113	0.05
Sincerity	RL3	4.11	4.13	-0.02
	RS3	4.27	4.07	0.2
Average		4.190	4.100	0.090
Customer Priority	RS1	4.15	4.13	0.02
	RS2	4.18	4.17	0.01
	E3	4.17	4.11	0.06
Average		4.167	4.137	0.030
Convenience	RL2	3.98	4.04	-0.06

	RS4	3.78	3.73	0.05
Average		3.880	3.885	-0.005

There is also other dimension that has zero gap value, this indicates that there is still room for improvement to enhance the quality of the service and make it even better. This zero value relies on trust, which in this case refers to the degree of credence of the employees and service provider. Among these dimensions, the availability of the spare parts (RL5) has the highest gap. This implies that DSC often does not have the spare parts needed in stock which leads to less satisfaction of customers.

For the dimension which has great satisfaction value as in the highest gap value (gap value farthest to zero) is sincerity by 0.09. This indicates that the employees of DSC has served customers by showing their true sympathy towards customer problems, in this case their technical problems with their cars and has been willing to help customers.

5. Findings and Conclusion

Customer satisfaction is considered essential in business industry, especially because, the products offered are intangible and quality measurement becomes harder to evaluate. There are several ways to evaluate service quality, among them the SERVQUAL method is the most popular and widely used method.

Using the original 22 items that is divided to 5 dimensions from the questionnaire, through factor analysis emerged the new 7 dimensions consisting of original items of SERVQUAL that measures responsiveness, assurance, tangibles, empathy and reliability. The dimensions are Service Design, Customer Relationship, Trust, Attentiveness, Sincerity, Customer Priority, and Convenience.

Same analysis was used to determine which of the dimensions has the most important service attributes by focusing on the factor explanation power. Results could be concluded that service design is the most important factor in service quality of DSC. This could be caused by how service design dimension consists of both tangibles and reliability, which is dependability of the service done and accuracy in keeping records. Reliability has been the most important dimension in previous literature as well (Wu et al, 2011; Al-Shammari et al., 2014), supporting it as a potential item that might cause service design dimension to rise up within the importance degree.

Concerning the service design importance, the satisfaction level of the dimension should also be high to support the satisfaction level. However, results suggest that it is rather low (0.006), where the gap value is second lowest of all dimensions. This is rather deficient when compared to other service quality dimensions, in addition to the dimension's higher degree of importance. DSC still needs to improve T1, RL1, and RL4 to enhance its service design, of which the gap value is still below zero.

On contrary, sincerity was found as the dimension which, the customers are highly satisfied with. DSC has to maintain how employees deliver sincerity in serving customers by showing sympathy and willingness to help them in terms of car maintenance/repair.

However, DSC still needs to overcome the low satisfaction level of trust by providing spare parts for customers. Since, DSC is an authorized service centre; there should be higher expectation of DSC to provide official spare parts when needed. This may lead to the low satisfaction level because respondents seemed to have their expectations unfulfilled. This significant gap (-0.06) in the availability of spare parts seems to drag the value of trust down to zero.

There are also other minus value on RL6 (-0.03), which signifies accuracy in keeping customer records. This may be caused by some complaints regarding the unmatched data or unrecorded service logs that were found during research. These complaints belong to the inaccuracy of the data recording done by employees, thus making customers unsatisfied.

Overall, DSC has already done good job in retaining customer level of satisfaction. This is proven by most of the service quality dimensions that has gap values above zero. However, DSC still needs to improve its problems regarding the stock or availability of spare parts needed by customers, since it significantly alters the satisfaction level of DSC customers. Furthermore, management needs to pay attention more to service design attributes considering its importance and its low gap value.

6. Limitations

Due to time and budget constraints, this research only involves 100 respondents as sample of DSC customers. The small sample size could affect the accuracy of this research. The research was also conducted in one place only, which was the DSC outlet located in Soekarno Hatta, Bandung, Indonesia. As a result of these factors, the data might not be a suitable

representative for whole population of Daihatsu auto repair customers in Bandung.

There were also problems in delivering the meaning of "perception" and "expectation" to respondents since, the same sets of questions was distributed. Some of the respondents confuse the expectation with perception and so forth. There is also the limitation with first-time customers as they cannot give proper perceptions of the service delivered. This limitation might deal with the demographic background of customers and the type of questionnaire that the research used. Future research should explore the auto repair/maintenance business service quality more widely in Indonesia for better understanding of customer satisfaction by enlarging the scope of research and provide data from many varieties of auto repair shops in different areas.

References

Al-Shammari, M., & Samer Kanina, A. (2014, November). A Perceived Customer Service Quality in a Saudi Automotive Company. *International Journal of Managerial Studies and Research*, 2 (10), 173-182.

Andaleeb, S. S., & Basu, A. K. (1995). Technical complexity and consumer knowledge as moderators of service quality evaluation in the automobile service industry. *Journal of retailing*, 70(4), 367-381.

Angelina, A. T., & Wibowo, S. A. (2012). SERVICE QUALITY IMPROVEMENT AT CV. CITRA TIARA (CITI TRANS) BANDUNG. *The Indonesian Journal of Business Administration*, 1(3), 166-174.

Berry, L. L., Parasuraman, A., & Zeithaml, V. A. (1988). SERVQUAL: a multiple-item scale for measuring consumer perception of service quality. *Journal of Retailing*, 64(1), 12–40.

Bouman, M., & Van der Wiele, T. (1992). Measuring service quality in the car service industry: building and testing an instrument. *International Journal of Service Industry Management*, 3(4), 4. Retrieved from: http://search.proquest.com/docview/233645923?accountid=31562

Brito, E. P., Aguilar, R. L., & Brito, L. A. (2007). Customer choice of a car maintenance service provider: A model to identify the service attributes that determine choice. *International Journal of Operations & Production Management*, 27(5), 464-481.

Cotiu, M. (2013). Satisfaction with goods and services: Definitions and determinants. A critical

review of the literature. In the Proceedings of the International Conference "Marketing-from Information to Decision" (p.68).Babes Bolyai University. Retrievedfrom:http://search.proquest.com/docview/1477969456?accountid=31562

Cronin Jr., J. J., & Taylor, S. A. (1992). Measuring service quality: a re-examination of extension. *Journal of Marketing*, 56(3), 55–68. Retrieved from: http://dx.doi.org/10.2307/1252296

Ebrahimi, M. S., & Imani, F. (2014). Evaluating customer satisfaction in Iranian agricultural cooperatives by use of SERVQUAL model. *International Journal of Agriculture and Crop Sciences*, 7(4), 202-206. Retrieved from: http://search.proquest.com/docview/1535269377?accountid=31562

Gannage Jr., G. J. (2009). *Assessing* SERVQUAL *and the automotive service quality model: A comparative study*. Retrieved from: http://search.proquest.com/docview/305172383?accountid=31562

Mauri, A. G., Minazzi, R., & Muccio, S. (2013). A review of literature on the gaps model on service quality: A 3-decades period: 1985-2013. *International Business Research*, 6(12), 134-144. Retrieved from: http://search.proquest.com/docview/1477174024?accountid=31562

Nimako, S. G., Azumah, F. K., Donkor, F., & Adu-Brobbey, V. (2012). Confirmatory factor analysis of service quality dimensions within mobile telephony industry in Ghana. *Electronic Journal of Information Systems Evaluation*, 15(2).

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1994). Reassessment of expectations as a comparison standard in measuring service quality: implications for further research. *Journal of Marketing*, 58(1), 111–124. Retrieved from: http://dx.doi.org/10.2307/1252255

Shuqin, W., & Gang, L. (2012, December). An Empirical Study of After-sales Service Relationship in China's Auto Industry. In Proceedings of the 1st International Conference on Mechanical Engineering and Material Science. Atlantis Press.

Straub, D., Boudreau, M. C., & Gefen, D. (2004). Validation guidelines for IS positivist research. *The Communications of the Association for Information Systems*, 13(1), 63.

Wu, C. H., Chang, Y. C., Lee, Y. C., & Lin, S. B. (2011, August). Measuring service quality of car maintenance. *In Management and Service Science (MASS), 2011 International*

Conference on (pp. 1-4). IEEE.

Zaim, H., Bayyurt, N., & Zaim, S. (2010). Service quality and determinants of customer satisfaction in hospitals: Turkish experience. *The International Business & Economics Research Journal*, 9(5), 51-58. Retrieved from: http://search.proquest.com/docview/366510473?accountid=31562

Zulkarnaen, F. R., & Aldianto, L. (2012). Measuring Retail Service Quality of Oiwak Store By Importance and Performance Analysis. *Journal of Business and Management*, 1(2), 95-100.