

The Repairment of Motor Vehicle Periodic Test Service Based on the Service Users' Perception

(Case Study at Tegal Motor Vehicle Periodict Test Unit Pengujian Berkala)

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Abstract

This study aims to analyze the service users' perceptions and expectations of Motor Vehicles Periodic test at Technical Implementation Unit (UPT). The researcher took a case study at Tegal PKB UPT. The observation was conducted on 29 attributes related to the infrastructure, facilities, operational systems, human resources, and environment. In addition, there were some additional questions for each respondent. The purpose of it was to know the vehicle condition and experience in conducting vehicle periodic testing activities elsewhere. The method used in this study was a qualitative model of SERVQUAL service quality measurement developed by Parasuraman et al. Furthermore, it continued with the GAP analysis and Quality Function Deployment (QFD). The Quality Function Deployment (QFD) analysis result of this study produced a picture of UPT Motor Vehicle Periodic Test system in accordance with the users' perception. That result could be used for the operator as priority reference to improve motor vehicle periodic test service at Technical Implementation Unit (UPT). In addition, the result claimed that the GAP numbers were dominantly negative. The different between the services that had been provided and the service users' expectation at Tegal Motor Vehicle Test Unit with the average level of inequality (SERVQUAL SCORE) was - 0.9292. Therefore, motor vehicle periodic test regulations system in Indonesia needs to be improved in order to be connected in across Indonesia and bank. Thus, it will minimize unauthorized charges occurrence.

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1. Introduction

Strategies issues in Indonesian transportation are about traffic accident and environmental problem. One of the factors which influence to the traffic accident is the vehicle condition. In order to minimize the number of traffic accident and to manage the environmental problem, one of the ways that can be implemented is trialing the motor vehicle. The declaration of law number 22 year 2009 about traffic and public transportation, law number 23 year 2014 about regional government, minister of transportation regulation number 133 PM year 2015 about motor vehicle periodic test article 22 paragraph 1 (b) states that facilities development and trial equipment of motor vehicle is conducted by the regent or mayor for motor vehicle periodic test in district Technical Implementation Unit or city government.

Motor vehicle test according to the transportation minister regulation number 133 PM year 2015 about motor vehicle periodic test is a series of trial activity and check the motor vehicle section or component, trailer and attach train in order to fulfill the technique and roadworthy requirement. Motor vehicle periodic test purposes to ensure that the motor vehicle which operated has fulfill the technique and roadworthy requirement and will not pollute the environment.

Motor vehicle periodic test system is one of the road transportation sub system which function is to actualize the efficient road transportation system. The efficient measurements are: financial cost, time, energy saving, the motor vehicle guarantee supply which full fill good accuracy standard in national, regional, or international, good safety guarantee from the use of motor vehicle facilities for human or thing, the impact protection of motor vehicle to the environmental pollution.

The test system really supports the criteria achievement even there are some complex problems faced in its implementation. It is because the test needs an integrated handling to ensure the roadworthy all motor vehicles continuously; start from pre design process, production process, and motor vehicle operational. Remembering the important function of motor vehicle test, the public service in motor vehicle test sector has to precede road transportation safety principle and prime service.

From above explanation, the research in order to see public service in motor vehicle test sector is needed to be conducted. The implementation unit of Tegal motor vehicle technical test was become the research object. However, Tegal is a knot between Java Pantura pathway and south java pathway. Thus, it is possible for the transportations which across both pathways use the service of motor vehicle test of Tegal technical unit.

Some of the questions that may get a serious attention to be researched are: how is the service quality of Technical Implementation Unit (UPT) motor vehicle test that has been given based on the service user opinion, to what extent the function of motor vehicle technique executor unit service based on the service users and what

is their hope, and what kind of effort that must be conducted by the transportation minister in purpose to develop the public quality service of motor vehicle test based on the service users' expectation.

2. Review of Literature

The law number 23 year 2014 about regional government has given the regional authority to conduct the motor vehicle test process. The region is given the authority to handle and manage all the things that has been become the regional authority. Some of the regional authorities are: creating the regional policy to provide a service, increasing the participation, initiative and society empowerment which purposes to increase the societies' welfare. By all the authorities, regional government especially district or city government has to improve the public service quality in every area by conducting prime service. The higher the societies' progress and demands for the executor service government to give serious attention in providing the service, the clearer and more professional the government system in providing public service to the society.

The motor vehicle test is conducted to ensure the safety, environmental sustainability and public service. The test execution is the government authority. The test activity consists of type or periodic test. It is conducted by the testing staff that has a technique qualification. Furthermore, the testing staff is classified based on the authority level consideration and the staff responsibility in stage. Every motor vehicle type bus, freight car, special vehicle, trailer and attach train, and public vehicle that is operated in the road, must follow the periodic test about six months. After the vehicles pass the test, they will get a test pass proof in a form of book and periodic test where applicable in all Indonesia areas.

In order to establish the gap identification between user perception and expectation, SevQual calculation is conducted based on the gap between perception (the perceived service) and expectation (the expected service) the user (Zeithaml, et al 1990). From the calculation, the attributions that have users' conflict potential in completing the needed is found.

The formula is written as follow:

$$\text{Serv Qual Score} = \text{the perceived service} - \text{the expected service}$$

$$X_i \text{ Gap} = X_{pi} - X_{ei}$$

Where :

$X_i \text{ Gap}$ = Gap average of X_i variable

X_{pi} = perception average of X_i variable

X_{ei} = expectation average of X_i variable

The analysis of service quality development with QFD (Quality Function Deployment) based on the principle consists of several steps as follow:

1. Determining the customer satisfaction index or CSI

2. Analysing the quadrant mapping
3. Customers' need; the dominant of users' expectation
4. Relation matrix between technical response given by the service provider and the customers' hope.
5. Correlation matrix; mapping the relation and the needed between replacement characteristic and technical response

Service variables that will be observed by the approaches above are describe as follow:

A. Infrastructure

1. The adequate condition of entrance and exit road
2. The availability of vehicle parking area
3. The availability of place for vehicle repair before or after passing periodic test
4. The availability of toilet and water for vehicle crew
5. The availability of waiting room for vehicle crew

B. Facilities

1. The availability of fire extinguishers
2. The easier of getting information about periodic test cost for every vehicle type
3. The availability of television or billboard for information facility
4. Checking the suspension and the vehicle bottom side
5. Brake checking
6. Checking the vehicle exhaust emission
7. Checking of the inside vehicle body condition from the damage
8. Checking the seat belt at front seats (driver and passenger)
9. Checking the passengers' seats (from the damage and ergonomic condition)
10. Checking the windshield and the side glass (near the passengers) from the damage
11. Checking the light of passengers' room
12. The availability of vehicle repairment before or after passing the periodict test

C. Operational system

1. The cost of periodict test
2. The easier of online payment system of periodict test cost (via bank or test unit in other cities)
3. The easier of conducting the test in other test unit (ride periodict test)
4. The availability of vehicle mandatory test information system which is connected to the other city test unit (online periodict test system)
5. The availability of information system to remind the vehicle owner that his vehicle test period will be over (via mobile phone)
6. Officer's commitment (in the unit there is no scalper)

D. Human Resource

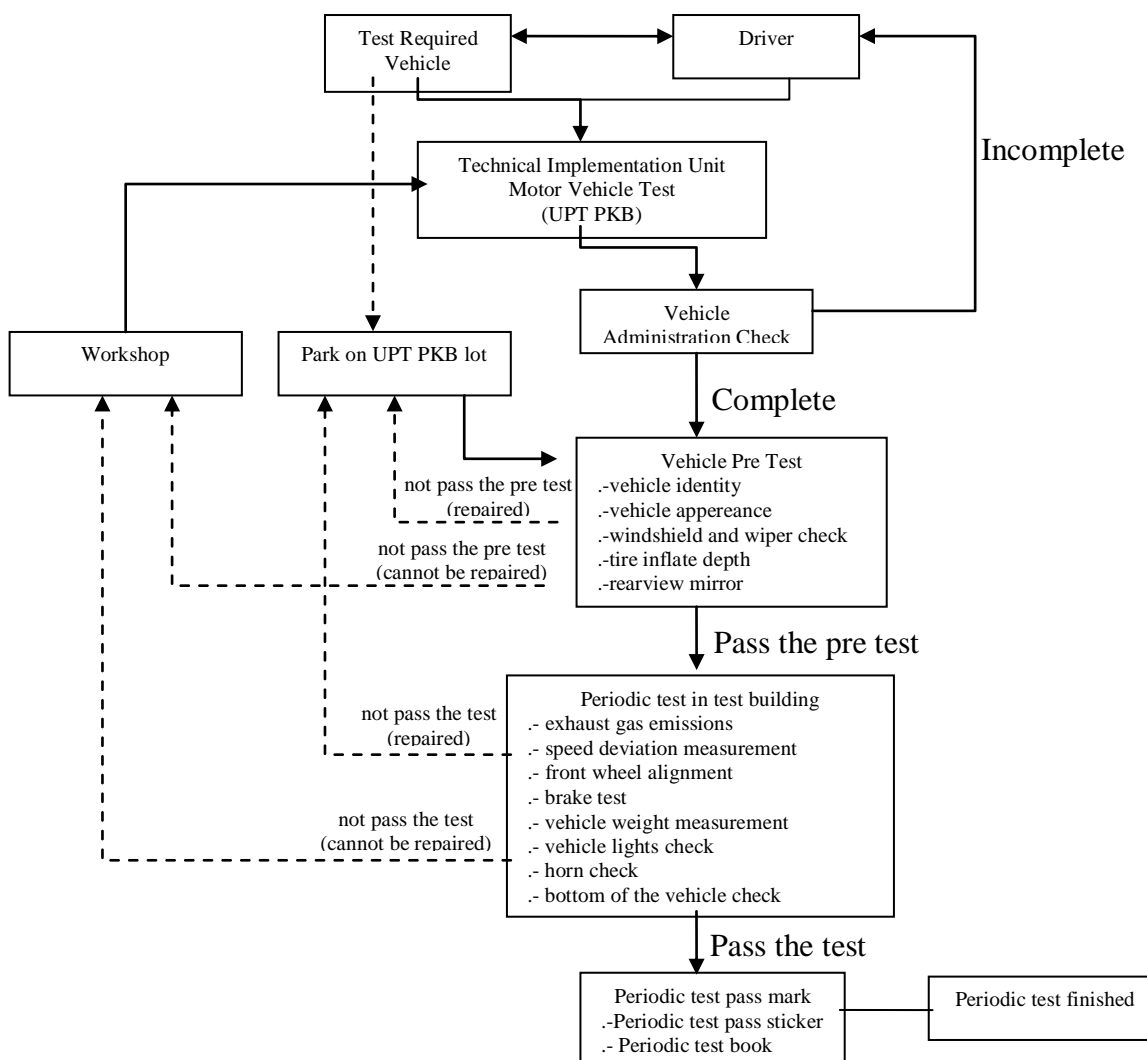
1. The honesty of LLAJ staff in asking the periodict test/kir cost based on the applicable rates
2. The staff mastery in conducting check activities/vehicle test/kir
3. The friendly staff in providing the service

E. Environment

1. Cleanliness of the vehicle parking area
2. Cleanliness of the crewman vehicle waiting room
3. Cleanliness of the inside test building

3. Case Description

The object of this study was the service given to the customers who came to the Technical Implementation Unit of Tegal motor vehicle test. However, Tegal was a knot between Java Pantura pathway and south java pathway. Thus, it was possible for the transportations which across both pathways used the service of motor vehicle trial of Tegal technical executor unit. According to the field observation and interview with staff of motor vehicle trial at Technical Implementation Unit, the activities in periodic test service described as follow:



Picture 1: Periodic Test Service mechanism in Tegal City Testing UPT

4. PKB Service Unit Users Service Quality Development According to Quality Function Deployment (QFD)

According to the gap analysis, the next follow up step is by doing suitable improvements with the gap score

priorities. The gap score between perception and expectation of the service users of Tegal City UPT PKB services are stated on the following table.

Table 1: Gap Score between Perception and Expectation

Variable	Attribute	Average Score		Gap
		Perception	Expectation	
V1	The inadequate vehicle in and out road condition	1,8700	2,9280	-1,0580
V2	The availability of vehicle parking lot	2,4278	3,4270	-0,9992
V3	The availability of the vehicle repair place before/after the periodic test	2,3607	3,4207	-1,0300
V4	The availability of toilet and water for the vehicle owner	1,6983	2,9048	-1,2065
V5	The availability of waiting room for the vehicle owner	1,9143	3,1968	-1,2825
V6	The availability of fire extinguisher	1,8657	2,4668	-0,6010
V7	The ease of getting the information about periodic test cost of every vehicle	2,7321	3,4270	-0,6949
V8	The availability of TV or billboard as an information facilities	1,8754	2,9692	-1,0938
V9	The suspension and the bottom of the vehicle check	2,9692	3,2334	-0,2642
V10	Brake check	2,3132	3,0698	-0,7564
V11	Vehicle exhaust gas emissions check	3,1286	3,4270	-0,2984
V12	Vehicle inside body condition check from damages	1,5518	3,1610	-1,6092
V13	Front seat belt condition check (driver and front passenger)	2,0318	3,4270	-1,3952
V14	Front passenger seat overall condition check (from damages, ergonomic condition)	2,0442	3,0169	-0,9727
V15	Wind shield and window mirror (passenger window) from damages	1,8754	3,0698	-1,1942
V16	Light inside the passenger room condition check (off or not)	1,6439	3,0426	-1,3987
V17	The availability of tools for vehicle reparation before/after the periodic test (workshop tools)	2,1486	3,2334	-1,0848
V18	Fees charged for the periodic test	2,5079	3,4270	-0,9191
V19	The ease in the payment of test cost with an online system (bank payment or other city testing unit)	1,9659	2,9254	-0,9595
V20	The ease in doing a test in other city testing units	2,1149	2,7780	-0,6631
V21	The availability of vehicle required test information system that connected with other city testing unit (online system periodic test)	1,8507	3,0698	-1,2189
V22	The availability of information system for warning the vehicle owner that the vehicle test period will be expired (via Handphone)	2,3298	2,8294	-0,4996
V23	The employee commitment that the test is free from scalper	1,8591	3,1968	-1,3367
V24	The honesty of the LLAJ employee in asking for payment fee for periodic test (according to the applicable rates)	1,8483	3,0426	-1,1943
V25	The reliability of every employee in inspection activity/vehicle test/exam	2,4373	2,8860	-0,4477
V26	The friendliness of every employee in giving the services	2,2809	2,9048	-0,6239
V27	The cleanliness of the vehicle parking lot	2,5079	3,4270	-0,9191
V28	The cleanliness of the waiting room for vehicle owner	2,3491	3,6514	-1,3022
V29	The cleanliness of the testing building	2,7787	2,7030	0,0757
	Average	2,1831556	3,11233	-0,92917468

The orientation of the service quality improvement and upgrade can be started from many aspects, and in this case, it is mainly influenced by the government policies through rules of periodic vehicle testing services. Technical characteristic is an important component as a parameter for service improvement and upgrade. According to the calculation of every technical

characteristic associated with the importance level of the customer service attributes, priority improvements and service quality improvement service users are obtained with the following order:

1. Need a revision towards the rules about vehicle periodic inspection/testing types

Motor Vehicle Testing according to the Regulation of the Minister of Transportation No. PM 133 of 2015 concerning Motor Vehicle Periodic Testing does not mention the type of inspection of the condition of the cabin, especially passenger vehicles. This necessary to ensure the safety and comfort for the drivers and the passengers of public vehicle, and have not mention the comprehensive test for tank shaped patch trains, because some of the accidents in Indonesia happened and involving fuel tank truck.

2. The creation of periodic testing that connected throughout Indonesia by the Ministry of Transportation.

Along with the rapid development of information technology, Ministry of Transportation as a regulator in the field of motor vehicle testing need to make a rule and a motor vehicle periodic testing system that connected in all regions of Republic Indonesia, where every mandatory periodic testing vehicle owner can do a testing of their vehicle in all region of Republic Indonesia with the same system in every vehicle testing location and the owner of the vehicle can access their vehicle information by using a smartphone wherever and whenever.

3. The creation of the rules about periodic test that connected in all across Indonesia by the Ministry of Transportation in cooperation with the bank.

The current society are already using the recent available features on the bank services for various kind of needs, such as payment of electricity bills, telephone, credit card bills and so forth that can be done through ATM machine and smartphone. For this reason, collaboration between providers of periodic testing services and the bank is needed for the payment of the periodic vehicle testing services. This action can minimize the existence of scalper and suppresses the violations by the officers in the Periodic Vehicle Testing Unit, so that the owner of the vehicle come to the place just for testing their vehicle and for administrative purposes and to avoid cash money transactions.

4. The waiting room is provided for the representative of vehicle crews.

The existence of the waiting room for vehicle owners will make them comfortable inside the waiting room and can interact with other owners while waiting for the process of the periodic testing of their vehicles.

5. Workshop equipment is provided around the vehicle parking location

Not all of the vehicles who come to the PKB Unit are in a good condition or no damages, it is important to prepare the workshop equipment to ease the repairs for the damaged part of the vehicle. So that, before and after the periodic test, the vehicle must meets the technical requirements and road worthy.

6. The addition of fire extinguishers on the vehicle parking area and inside of the test building

Fire extinguishers are very important, to avoid fire hazards that come from the testing equipment or from the parked vehicle in the parking lot.

7. Payment of the test fees via ATM or mobile banking.

Payment via ATM or mobile banking is intended to minimize the scalper practice around the PKB Unit and to avoid illegal payments by the unscrupulous officers.

8. Providing 40" Flat TV in the waiting room.

The presence of TV in the waiting room is intended to be an information facility and entertainment purpose to the PKB Unit customer. The TV is expected to comfort and satisfy the customer and also to show the position of the tested vehicle.

9. Adding janitors

So far, the Tegal PKB Unit only employs three janitors. This is less effective because more janitors need to be employed. The places of concern to be cleaned are toilets, customer waiting rooms, vehicle system areas, buildings and test counters as well as cleanliness of periodic test equipment.

10. Imposing sanction for the officers who proven in committing violation.

The officers who make mistakes whether it is technical procedure mistake in testing the vehicle or non-procedural such as extortion, mark-up of the test fees need to be sanctioned in accordance with the applicable regulations both administrative and criminal sanction.

11. Vehicle in and out access separation

During this time, there are only one way for vehicle in and out access. It is important to separate it in such way in order to make it easy for the vehicle to maneuver in entering or exiting the parking lot, especially when vehicle cars met in the same way.

12. Built toilets and clean water sources for crew / users of UPT PKB services.

The existence of the toilets in Tegal PKB Unit are less representative. For this reason, it is necessary to build a representative toilet and a source of clean water to fill up the vehicle radiator water and to clean up the vehicle that tested periodically.

The improvement of periodic motor vehicle testing services especially in UPT PKB Tegal City according to the Customers Expectation can be started by improving the quality and / or adding new infrastructure such as representative waiting rooms until toilet and clean water for the crew/users.

5. Conclusion

In this study, the observed variable was the measurement of the level of service on the Periodic Testing of Vehicle based on the Minister of Transportation Regulation No. PM 133 of 2015 concerning on the Periodic Testing of Vehicles and also the dimensions of infrastructure, facilities, operational systems, human resources and the environment of the Periodic Vehicle Testing Unit in Cities/Regencies. Based on the results of the perception level average score data, the level of perception, expectation and also the gap score of the customer of PKB Unit were obtained with the perception average score 2,1832 and the expectation average score 3,1123 so that the gap level (SERVQUAL SCORE) is -0,9292

which means that the provided service not yet able to provide users satisfaction.

6. Suggestion

Some suggestions which related to the service quality improvement of motor vehicle periodic test unit or the continuous research activities:

1. Today reference for increasing the service provider quality is based on the transportation minister regulation number 133 PM year 2015 about motor vehicle periodic test. Meanwhile, it was not efficient to full fill the comfortable standard of the drivers, passengers, trailer/attach train, and tanker to guarantee the safety for other road user. Therefore, the additional regulation needs to be created in order to support the previous regulation.

2. Technical training is needed for the periodic test unit staff; whether the technical training for motor vehicles check or technical training which related to the information technology in motor vehicle test. It purposes to support the operational activity of motor vehicle periodic test.

3. The transportation minister as the agency that responsible to manage the technical of motor vehicle periodic test has to coordinate each motor vehicle periodic test unit in all Indonesia city or district especially about operational side.

4. Tegal government, especially the transportation minister should conduct the repairment for the infrastructure, facilities, operational, human resource, or PKB Technical implementation Unit (UPT) environment. It purposes to improve the service quality to be **good government** of public service sector. Hence, they will not only focus on the locally-generated revenue (PAD).

5. This study focused on Tegal case study only. Hopefully, the continue research can be conducted in other cities with the large number variation of motor vehicle mandatory test such as Semarang, Jakarta, Surabaya and other cities outside java island. It is because outside the java island, the number of motor vehicle mandatory test is less than Tegal city. This consideration is needed to create the authority in Indonesian motor vehicle periodic test.

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