

ANALYSIS THE QUALITY FUNCTION DEPLOYMEN (QFD): EXPLOITING OF THE VOICE OF CUSTOMER TO PRODUCT SERVICE QUALITY

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Abstract :

Quality Functional Deployment (QFD) analysis for manufacturing industry principally applies matrix approach, while the QFD analysis for service industry uses a combination between QFD and Service Quality Servqual) Dimensions to establish another approach namely Behara as house of Service Quality (HOSQ) Approach. The purpose of these approaches in analyzing the benefit, of the voice of costumer to create service at PT. Kereta Api Indonesia.

Keywords: *Quality Functional Deployment, service Quality Dimension, House of Service Quality.*

Abstraksi:

Kualitas Fungsional Deployment (QFD) analisis untuk industri manufaktur terutama menggunakan pendekatan matriks, sedangkan analisis QFD untuk industri jasa menggunakan kombinasi antara QFD dan Service Quality (Servqual) Dimensi untuk menetapkan pendekatan lain yaitu Behara sebagai Rumah Service Quality (HOSQ) Pendekatan. Tujuan dari pendekatan dalam menganalisis manfaat dari "suara konsumen" untuk menciptakan kualitas pelayanan pada PT. Kereta Api Indonesia.

Kata kunci: Kualitas Fungsional Deployment, layanan Kualitas Dimensi, Rumah Kualitas Pelayanan.

Problem Background

Basically operation strategy assist the implementation of company strategy by connecting decision designed and decision for the operate (Krajewski And Ritzman, 1996). Developing strategy basically participate the customer (the voice of customer) started with the market analysis, identifying requirement and desire customer and also assess the competitor ability. The Voice of costumer of vital importance in determining process transformation or operate for to yield the output desired the. this customer Participation can be in the form of the information gift of about some conditions wanted to service which on the market by company, even can involve the customer in course of

Service conditions to costumer service representing step of early in designing desire and requirement customer and considered to be a very critical planning in course of product development or service. Perception customer about service owning high quality, quality as emulation weapon which blooded for every emulation (Dilwort, 1996). Hereinafter Croos and Smith (1996) added the voice of customer play a part important in determining product or service which with quality and non a period to again assume customer as passive goals. Therefore company require to create the excellence operate for to utilize to fulfill the service conditions to customer, minimizing production cost, distribution of product or service, and mount the high return (Chapman, 1996). Conditions customer for product and service very require to be paid attention to, if satisfied customer to product or service which on the market company hence customer will reciprocate by giving high profit to company

through purchasing repeatedly, company sale will be made a reference, maintenance cost customer will be downhill, and also can lessen the exposure emulation (Source: Cumby And Barnes, 1996).

To find to fulfill the desire of company consumer have to pay attention to beforehand hit the Total concept Quality Service.

Total Quality Service is strategic management system and integrative entangling manager and employees, and also quantitative method to improve; repair continually organizational process, so that fulfilling and exceeding requirement, desire and consumer expectation (Stamatis, 1996) Basically Total concept Quality Service focu at consumer (costumer focus), identify the internal consumer, external, and or medium represent the especial priority. If this matter have been done hence step hereinafter identify the requirement, desire, and customer expectation. For that needed a appliance which can be used to identify the requirement and consumer desire, that is Quality Function Deployment (Qfd).

Quality Function Deployment (QFD), representing one of appliance capable to analysis the voice of customer to product or service desired by consumer. Through QFD, the voice function of customer translated into process designed the in form of matrix house of quality to result the product or service according to conditions and consumer desire by entangling member participation all organizational function. Griffin of And Hauser (1993) defining the voice of customer as consumer input. With the applying of QFD company expected can be protected from perception difference whereof given by company required by

consumer.

Pursuant to the description above, hence the problem of research: (1) attribute Inv kind of lionized by passenger of Indonesia Train?, (2) operational goals what llave to be conducted for to fulfill the expectation of passenger of Kerera of Indonesia Fire?, (3) plans any kind of which must be conducted for to fulfill the expectation of passenger of Indonesia Train.

Research Method Population

Population from this research all people who use the service of train of Indonesia and commercial shares management party and Indonesia Train Technique of Sample Random Sample in this research by purposive conditional or random sampling that is passenger more than thrice using service of Indonesia Train. Sum up the sample 200 passenger. Determination sum up this pursuant to Roscoe (in Sabihaini 2000) saying that amount sample more than 30 and less than 500 most research have been deputized, and if sample divided into sub sample hence each; every category needed minimum 30 sample.

Used Data

Primary Data, in the form of service quality, about how response mount the importance from passenger of service of Indonesia Train concerning service quality exist in Indonesia Train, in this case will be processed to become the Customer Requirement. Technical Requirement, that is from commercial shares management party and operational of Indonesia Train for data processed from Customer Requirement, what is in the form of all conditions of desire of service user organizational Indonesia Train in dimension of service

quality, that is tangibles, reliability, responsiveness, assurance, and empathy. In this research the data will be processed in Diagram Tree.

Data secondary, in the form of all attribute or service facility which there have and have been used by service user of Indonesia Train

Data Collecting Method

Data collecting in this research conducted with the method survey. Method survey conducted by using questionnaire or questioner. Enlist the questioner submitted direct to consumer JPPKA above age 15 year and commercial shares management party and operate for the railway station. Forwarding of questioner directly intended store; level to return high questioner

Definition And Variable Measurement variable Definition

Service Quality in this research comparison among expectation of consumer JPPKA with the store; level of performance railway station which can give the satisfaction to consumer JPPKA. Such Expectation response of consumer JPPKA for the 'importance of an attribute in fulfilling its requirement. Instrument used in this research instrument developed by Parasuraman, et.al (in Sabihaini, 2000), coveting tangibles, reliability, responsiveness, assurance, and empathy.

Test the Validity and Reliabilities

Result of test of validity questioner shall be as follows:

- a. Result test the validity of questioner consumer Result of homogeneity test from item in questioner for the consumer of to indicate that the item score, this matter indicate that the

questioner for the consumer of valid

- b. Result of test of validity of questioner station Result of homogeneity test from item in questioner for the party of station indicate that the item score have the positive correlation totally item score, this matter indicate that the questioner for the party of valid station. Test the reliabilities size measure of consistency of instrument research. Instrument told reliable if the appliance show the consistent result, so that this instrument can be used safely because can work better when and different condition (Cooper And Emory, 1995). In this research writer use the test reliabilities by using Cronbach Alpha. AN instrument can be told reliable if owning Cronbach Alpha bigger than 0,50 (Nunnally,1970). Result test the reliabilities questioner for the station of shall be as follows.

- c. Result of test of reliabilities questioner for the consumer of. Result of test of reliabilities questioner for the consumer of to indicate that the instrument in question bigger than 0,50, this matter indicate that the questioner for the party of station reliable. Result as complete as visible tables 1
- d. Result test the reliabilities questioner for the party of station Result of test of reliabilities questioner for the party of station indicate that the instrument in questioner bigger than 0,50, this matter indicate that the questioner for the consumer of reliable. Result as complete as visible table2

Analyst Appliance

Analyst Appliance Analyst Appliance used in this research QFD by correlated dimension of quality of service of Servqual Dimension according to input.

Tables 1 : Result of Examination of Reliabilities Questioner Consumer.

Dimension	Cronbach Alpha coefficient	T tes	Summary
Tangibles	0,9416	0.5	Reliable
Reliability	0,8608	0.5	Reliable
Responsiveness	0,8718	0.5	Reliable
Assurance	0,8230	0.5	Reliable
Empathy	0,8144	0.5	Reliable

Source: proseeded primary data (2003)

Tables 2 : Result of Examination of Reliabilities Questioner Station.

Dimension	Cronbach Alpha coefficient	T tes	Summary
Tangibles	0,9821	0.5	Reliable
Reliability	0,9544	0.5	Reliable
Responsiveness	0,9209	0.5	Reliable
Assurance	0,9602	0.5	Reliable
Empathy	0,9151	0.5	Reliable

Consumer into process designed a service. Development conception the Q1-1) JPPKA in this research hereinafter will -se the scenario of approach of House Of Service Quality (I-IOSQ) developed by Sahara and Chase (in Fitzsimmons san Fitzsimmons, 1994) by emphasizing at :xploiting of Servqual Dimension in exploiting item to product or service desired by consumer JPPKA.

Analyst Data

Defining Criteria all Consumer JPPKA

First Step in making of house of quality defines the quality conditions from consumer JPPKA (customer requirement or customer quality criteria) showing voice or expectation all consumers JPPKA to quality repair station. This step conducted survey consumer JPPKA station, product some conditions desired by all consumer JPPKA, that is interesting us visually, service which quickly, administration amenity, freshmen space await, existence of safety and others. From conditions opened hereinafter grouped as according to service type which is there are in scale SERVQUAL, so that from conditions opened earn grouping as follows.

Determining Wight 9weight) Each Consumer Conditions

Second Step in making of house of quality determines the Weight each conditions which have been opened, that is number gift 1 till 5. Way of scoring a point by propagating questioner all consumer JPPKA where in the questioner service users asked to assess the importance story; level each conditions which have been mentioned. Weight determination pursuant to assessment all consumer JPPKA. From result questioner and after processed with

the computer obtained weight each conditions of percentage consumer tables 3.

Weight contained Tables 4 is to equip the house of quality, that is take possession of the column right side [at] costumer requirement with the score mount the importance which is there are from modus for former question item.

Tables 5 showing result of assessment modus mount the importance of consumer conditions according to consumer there are personal supporting service, administration amenity, service which quickly to all consumer JPPKA, Worker willingness gives the perceive to what required by consumer JPPKA, security, and good job discipline. While attribute obtaining assessment 3, where according to consumer and the unimportance consumer conditions proportional neutral or lay in available of adequate stand souvenir and available of floor Especially to enter the train door. Consumer conditions obtaining value 3, like available of adequate stand souvenir, this matter enabled because ready adequate stand souvenir by station party felt in addition the station fascination. But sometimes if stand souvenir, which is too much by consumer, felt to growing narrow; tight space move the consumer and generate the impression like market station. From this matter visible that story; level of available and unimportance of proportional adequate stand souvenir.

While to the availability of special floor to enter the train door also obtain; get the value 3, since for all passenger possible feel slack to step on staircase high, and surely if train passenger parent. But, availability of special floor to enter the train door also felt important to all consumer PPKA. s a. whole conditions contained in columns customer requirement Tables 5

most obtaining important assessment and of vital importance. Matter this means that above conditions is true very paid attention to consumer in obtaining service JPPKA.

Determining Scale of Preferential Consumer

Phase hereinafter determine the scale of preferential consumer. This phase represent the result from consumer assessment to attribute exist in station. As for attribute used for the conditions of this consumer amount to 13 attribute representing conditions secondary from consumer conditions.

From data collecting questioner as much 70 fruit, later; then processed to obtain; get its modus which its result such as those which seen Tables 6. Tables 7 can make the starboard side from house of quality. Later; Then from result of scale of preferential consumer, in the reality still a lot of attribute obtaining value 2. As for its division from 13 attribute obtaining value 4 as much 8 fruit, covering interesting facility visually, adequate material, later; then administration, good cooperation among worker JPPKA, friendly worker and respectably, worker ability in giving clarification everything hit the JPPKA, and Ability worker in giving information needed to consumer JPPKA. Later; Then attribute obtaining value 3 attention individually to consumer JPPKA. Attribute which require to get the special attention attribute obtaining value 2 where consumer assess the unfavorable existing attribute, the attribute cover the personal supporting service, service which quickly consumer JPPKA, worker willingness in giving everything hit the IPPKA, and good job discipline. If seen from above result, hence attribute obtaining

value 2 representing attribute stemming from human resource] exist in station. This matter represent the note for station the correct stages; steps to increase ability of resource human. Especially in order to service to consumer, company daimed to reach the consumer satisfaction. Consumer satisfaction represent the principal focus service firm.

Translating desire customer by accommodating How's which can be done by station Position

Phase hereinafter in making of house of quality translate the consumer conditions by accommodating how which can be executed by station position (design requirement or service company facets) to fulfill the conditions. for that used a method interview unrighteous station in this case side the station management, to obtain; get the information hit how station position can answer to the consumer conditions. Assertive appliance used at this phase by using tree diagram (Bosstert in Ika Nurul Qamari, 1996) Picture 1. Result completely, can be compiled design requirement consisted of two shares, namely operating factors and human factors), such as those which seen Tables 7.

Determining Correlation Facts aming Each customer requirement with the Component of How's S Station

This phase intended to know the relation slivering each component of How' S station in fulfilling costumer requirement mean that relation strong. While each the component How' S only.

Tables 3 : Conditions of Consumer JPPKA (Customer Requirement) that is take possession of the column right side at House of Quality

Primary Requirement	Secondary Requirement	Tertiary Requirement
Tangibtes	<p>Interesting facility by visual supporting</p> <p>Service of Material</p> <p>Administration Facility</p>	<p>The available of place park peaceful and wide Beautiful garden and service The available of security post [in] appropriate place The available of space await balmy and dean Lighting which is last for all activities The available of entertainment amusement medium (TV, Newspaper, TABLOID, Magazine) The available of call box Ash can which enough and dewiness Sum up the seat which enough and adequate Arrange the regular seat The available of suggestion box The available of booth and restaurant The available of adequate stand souvenir The available of dean toilet and amount answering the demand Supporting Natty station Worker appearance and respectably Sum up the worker which is last for serving the rush hour Reliability The available of special floor to take a ride the train door Amenity of Payment of train ticket in counter</p>
<p>Responsiveness Assurance</p> <p>Empathy</p>	<p>Good cooperation Way of refunding of payment JPPKA by quickly information among worker JPPKA about ticket price train from town one to town destination</p> <p>Worker willingness to give the response to what required by consumer JPPKA</p>	<p>Service quickly to all consumer JPP K Friendly Work and respectably Security Worker speed in serving worker Speed in problem service worker in answering to coherent consumer JPPKA PETUGAS request in handling problems arising out of is Existence of safety by all consumer JPPKA</p> <p>Worker ability to give everything hit the service of passenger of cart of discipline job which good ability worker in giving needed by consumer JPPKA Attention individually Communications of Employees and Station worker To to consumer JPPKA consumer JPPKA use the easy Language for the understand of consumer JPPKA to talk with the station head if meeting worker problem and station worker require to recognize nearer consumer remain to.</p>

Tables 4 : Weight have Interest the Consumer Conditions

No	Secondary Requirement	Tertiary Requirement	Bobot
1.	Interesting facility visually	The available of place park wide and beautiful safety and of security post place which accuracy space await balmy and dean Lighting which is last for all Available activities of 4entertainment amusement medium (TV, Newspaper, Tabloid, Magazine) available of call box Ash can which enough and 6 cleanness Sum up the seat which enough and regular available seat and box of Available restaurant and booth of 8 stand souvenir which dean available toilet and amount answering the demand.	4
2.			4
3.			4
4.			5
5.			5
6.			5
7.			4
8.			4
9.			4
10.			4
11.			4
12.			4
13.			4
14.			4
15.	Personnel supporting service	Natty station Worker appearance and respectably	3
16.		Sum up the worker, which is last for serving the rush hours	5
17.	Adequate items	The available of special floor to take a ride the train door	4
18.	Administration Amenity	Amenity of Payment of train ticket counter	4
19.		Way of refunding of payment JPPKA swiftly	5
20.		Information about ticket price train from town one to target town	4
21.	Good cooperation among worker JPPKA		5
22.	Worker willingness to give the response to what required by consumer JPPKA		5
23.	Service which quickly to all consumer JPPKA	Worker speed in serving	5
24.		Worker speed in serving problem	5
25.		Sprier worker in answering to request JPPKA	4
26.	friendly worker and respectably		4
27.	Security	coherent worker in handling arising out	4
28.	Existence of safety by consumer JPPKA		5
29.	Worker ability to give everything hit the service of train passenger		5

No	Secondary Requirement	Tertiary Requirement	Bobot
30.	good Job discipline		4
31.	Worker ability in giving needed by consumer JPPKA		4
32.	Attention individually	munications of Employees and worker of station of JPPKA use the easy Language to be understood	4
33.		amenity of Consumer JPPKA to talk with the station head [of] if meeting problem	4
34.		employees And station worker require to recognize nearer consumer remain to	4

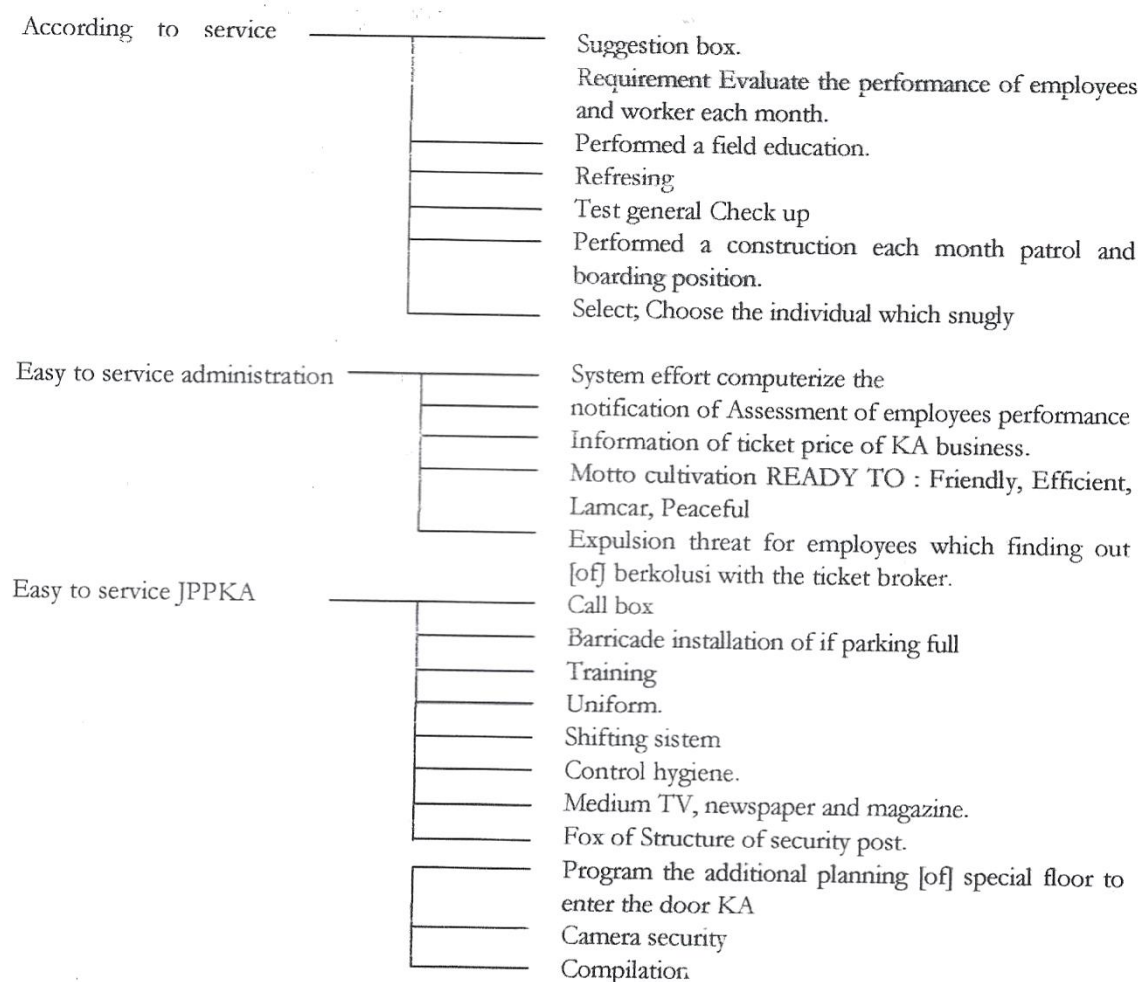
Tables 5 : degree; Level off interest the Customer Requirement

No	Customer Requirement	Bobot
1.	Interesting facility by visual Personal	4
2.	Supporting Material service	5
3.	Material Sufficient	4
4.	Facility	5
5.	Corporation Administration among worker JPPKA	4
6.	Service which quickly all consumer of JPPKA	5
7.	Willingness worker to give the response to what required by friendly consumer JPPKA	5
8.	Politely worker in giving darification everything hit the JPPKA	4
9.	Security	
10.	Attention individually to consumer of JPPKA	4
11.	Ability worker in giving information needed by good consumer JPPKA	5
		4
12.	Job discipline.	5

Tables 6 : Consumer referential scale

No	Customer	Bobot
1.	Interestin facility visually	4
2.	Personal supporting service	2
3.	Adequate material	4
4.	Administration amenity	4
5.	Good Cooperation among worker JPPKA	4
6.	Service which quickly all consumer JPP KA	2
7.	Worker Willingness to give the response to what required by consumer JPPKA	2
8.	Friendly Worker and respectably	4
9.	Worker ability in giving darification everything hit the JPPKA	4
10.	Security	2
11.	Attention individually to consumer JPPKA	3
12.	Worker Ability in giving information needed by consumer JPPKA	4
13.	Good Job Discipline	2

Gambar 1 : Diagram Tree



Tabel 7: Component Hos's Station

OPERATING FACTOR
Barricade Gift [of] if parking full (of)
Two incoming spandrel go out the
compatible Garden settlement
fox of Structure of security post
Strive the levying Movie / camera security
Shifting System
Control the hygiene
system of Enkindling AC
Read [of] reading / newspaper
Wash of ash can prepared
Seat observation
Plano logy Compilation
Read [of] suggestion box
Stand Souvenir

Program the special floor addition to enter the train
Read [of] pasteboard of ticket rice of cart of business class
HUMAN FACTORS
Ticket checking
Observation by POLICE
Discipline Information
Select; Choose the individual which snugly in physical and psychical
Appearance standard
Training
Uniform
Shifting
Assessment Notification
Expulsion Threat [of] if finding out there is which with the broker
Construction [of] eve one month; moon
Field education
Refreshing
Question and answer
Fit And Properties
General Check up health
Patrol securities
Boarding Position
Socializing motto READY TO : Friendly, Efficient, Peaceful

Supporting accomplishment of customer requirement, this matter indicate that the its slivering stored; level. And if each the component How S influence the accomplishment to each customer requirement, meaning its relation weak.

To show the relation slivering such as those which have been elaborated above. Used some symbols metric house of quality. Symbol which have been used, and also the meaning of eacp symbol shall be as follows = mount the strong corelation = mount the corelation is mount the weak corelation.

Each above symbol have the value with the scale of following: strong corelation story level have the value 9, corelation stored level is having value 3, and mount the weak corelation have the value 1. This

assessment good for knowing importance stored level of each component How'S which can be known to wait at undercarriage column of house of quality, namely at stored level of importance absolute and mount the importance relative.

Mount The Importance

Process this done by calculating some symbol of found on each every column of component How'S of where each every symbol have the weight of each. Later Then assess the weight multiplid with the importance stored level relative (relative importance) result from assessment [of] all customer which is located in left side [relation/link] matrix, or right splint column of customer requirement.

Correlation Matrix

Last Phase in course of making of house of quality making of correlation matrix depicting relation usher each component How'S there two, namely can be happened [by] the synergy and can be happened [by] the conflict.

Type of Corelation synergy happened if two component How'S supporting each other in reaching of consumer conditions, so that will generate result of super ordinate. While conflict will be happened by the moment two component How'S not supporting each other or experiencing of opposition in its execution, corelation Synergy can be happened for example became of two incoming exit spandrel by tight is ticket park secretors, both the things supporting each other the existence of safety, especially to park the. Conflict relation for example, stand souvenir with the Plano logy compilation. Stand Souvenir which is too much will result the impressing station like market, so that bother the freshment of consumer JPPKA. In a state of this, company pursuit to have to able to solve problem so that two component How'S which each other interfere in can synergy. Result of calculation importance

stored level, visible Tables 11

Condusion And Suggestion Condusion

From result analysis the Q1-1) by making inferential How'S of quality as follows.

1. All attribute of consumer conditions most obtaining important assessment (4) and of vital importance (5) according to responder. There 'S only some attribute obtaining neutral assessment (3), namely ready attribute stand souvenir and special floor attribute to take a ride the train door. This result indicate that the station position better pay attention to each attribute of consumer conditions, more specially again incoming attribute dimension of quality of service Assurance. This Side consumer eye take possession of the high sequence in importance stored level, because modus in secondary requirement 5, but so other dissimilar side take possession of the lowest sequence at scale of preference consumer [of] because all modus in secondary requirement 2.

Table 8 : Size measure mount the importance of Relatife and Absolute of Component of How'S Railway station

Relatife Importance	Absolute Importance	How's
1	315	question and answer Employees with the superior
2	288	Motto socialization READY TO : Friendly, Efficient, Fluent
3	279	Peaceful
3	279	Braving
4	243	Fit And Properties
5	207	performed a field education
6	162	Training
7	126	Construction of Performance Assessment

8	123	Evaluate the performance each month
9	117	Shifting of employees System
10	114	Select Choose the individual which snugly in physical and psychical
11	102	Refreshing
12	90	Test General check up health for employees and worker
12	90	threat of employees Expulsion which colution with the broker
12	90	fox of Structure of security post
12	90	Two incoming spandrel go out the
13	51	Division of specialized task of garden treatment
13	51	Division of specialized task of garden treatment
14	45	Division of specialized task of garden treatment
14	45	Ready suggestion box
14	45	System effort computerize the
14	45	Hygiene control
14	45	Shifting of System of worker security
14	45	addition Movie / security camera
14	45	system of Enkindling AC
14	45	Patrol And boarding position
14	45	Wash of ash can prepared
14	45	Ready stand souvenir
15	45	checking of train Ticket before going up Observation by POLICE
15	36	Information of ticket price of KA of business class
15	36	installation Brigade if place park have the full
15	36	Hygiene control
15	36	Ready medium TV
15	36	Program the special floor addition to dimb the door KA
15	36	Plano logy Compilation
15	36	compatible Garden Settlement
15	36	Garden treatment routinely
15	36	observation sit in Peron.

2. Result of assessment of scale of preference consumer indicate that the attribute obtaining value 4 as much 7 fruit, that is: interesting facility visually, adequate material, easy administration, good cooperation among worker JPPKA, friendly worker and respectably, worker ability in give information needed by consumer

JPPKA, later then attribute obtaining value 3 as much one fruit, that is attention individually is consumer JPPKA, while attribute obtaining value 2 five of fruit, that is: personal supporting consumer, service which quickly at all consumer JPPKA, ability worker to give the response to what required by consumer JPPKA,

security, and good job discipline. The result indicate that the consumer in using station still not yet licked lips, in enjoying service provided by a station party, because a lot of attribute obtain get the value 2. Attribute obtaining value 2 most attribute which deal with human resource ability. (3) from result of spreading questioner and interview unrighteous station obtained policy and stages steps in answering to consumer request, that is that education and training for employees and station worker have the important role for the efficacy of station management and make-up of service quality. This matter is visible tables 12 indicating that station activity instructing make-up of education and skill of employees and co-ordinate each employees occupy the ranking for.

Suggestion

If railway station will improve the its service quality require to impose of dimension assurance covering friendly worker and respectably, worker ability in giving darification everything hit JPPKA, coherent worker in handling arising out problems, good job discipline, existence of safety all consumer JPPKA railway station. This matter non meaning that railway station needn't improve other dimension. But in effort improve the service quality to consumer, railway station require to do the repair can be done with the training and development of human being exist in railway station.