Evaluation of Baai Island Ferry Port Services based on Minimum Service Standards

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Abstract. Pulau Baai Ferry Port serves one route, namely the Pulau Baai-Kahyapu route. Based on the results of a field survey, it was found that several services for service users had not been carried out properly, such as not having evacuation route instructions and evacuation gathering points, a prayer room whose area was still not clean and prayer equipment was not available, the passenger waiting room did not have air conditioning which caused the temperature in the waiting room to be hot, pedestrian paths (*Gangways*) were not available for port service users, and weighbridges were not available which were very important for detecting vehicle data entering the ship. In this study, the method used to analyze the existing problems was the Gap *Performance - Importance method* to determine the gap between the services provided by the port and the expectations of service users regarding port services, mapping *the Importance Performance quadrant Analysis* to determine the attributes that are the main priority in improving the quality of port services, and *the Customer Satisfaction Index* (CSI). *Performance Gap – Importance* analysis, it was obtained The highest gap value for passenger services with a value of -2.46 on attribute 46. For ship services at the port with a value of -1.91 on attribute 1. The highest gap for vehicle services at the port with a value of -2.39 on attribute 4. Based on the results of the *Importance Performance quadrant mapping analysis Analysis* there are 22 attributes in quadrant I for passenger service, 3 attributes for ship service and 6 attributes for vehicle service as the main priority of improvement so that the level of user satisfaction can be increased. Based on the results of the *Customer Satisfaction Index analysis* , the user satisfaction index was 57% and was included in the fairly satisfied category.

Keywords: Evaluation, Gap Analysis, Pulau Baai Ferry Port

1. INTRODUCTION

According to Lasse (2011), a port is a place where ships anchor (*anchorage*), maneuver , moor (*berthing*), to carry out activities of loading and/or unloading passengers and goods safely *and* securely . *Passengers* who are transported must be guaranteed security and goods transported to the destination port in the same condition

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as when received at the loading port, thus providing a sense of certainty and peace of mind for travelers or owners of goods. In order for service users to feel this way, it is mandatory for port management to improve and fulfill the performance and quality of service to passengers in accordance with the applicable minimum service standards. The quality of service provided can determine customer satisfaction. Customer satisfaction is a positive or negative response from customers to the discrepancy between the actual performance felt after use by customers and the level of importance expected by customers.

In general, user satisfaction will be achieved if the quality of service obtained is in accordance with what is expected by the user. If the quality of service users perceived is much lower than expected, then the user will not be satisfied. If the quality of service perceived is in accordance with expectations, then the user will be satisfied. The way to achieve this is to meet the expectations of the user. According to Kotler, the quality of service is determined by 5 (five) service quality attributes, namely physical appearance (*tangible*), *reliability* , *responsiveness ,* assurance and empathy . To support this aspect, minimum service standards at the port are very important as a reference for the quality of a service provided by the port manager.

Port is a very important ferry port for the people of Bengkulu Province, so that Pulau Baai Ferry Port is the only main ferry route connecting Bengkulu Province to Kahyapu Port on Enggano Island.

Based on observations made, it was found that several services at the Pulau Baai Ferry Port were not in accordance with the Regulation of the Director General of Land Transportation Number: KP.5062 / AP 005 / DRJD / 2020, such as the Pulau Baai Ferry Port does not have evacuation route instructions and evacuation gathering points, while Bengkulu Province is a province prone to earthquakes. The prayer room area is still not clean and prayer equipment is not available. Then it can be seen that in the passenger waiting room there is no air conditioning which causes hot temperatures in the waiting room. Meanwhile, the pedestrian path (*Gangway*) is not available for port service users. Then for ship services at the port, there is a lack of lighting in the area around the pier. Meanwhile, for vehicle services at the Pulau Baai Ferry Port, there is no weighbridge which is very important for detecting vehicle data entering the ship.

2. RESEARCH METHODOLOGY

The method used by the researcher is a type of quantitative method that uses data in the form of numbers and is analyzed using statistics. This research was conducted with method do observation direct , calculation , standard survey service port , as well as questionnaire / survey . In this study using a number of tool measuring like tool measuring temperature room , and tools measuring intensity light . In addition, this research also conducted survey and observation direct with use indicator assessment attached to the Regulations Regulation of the Director General of Land Transportation Number: KP.5062/AP 005/DRJD/2020 and every indicator own mark score in form numbers , next results survey the accumulated and produced mark percentage fulfillment standard services at the port . In this study , one of the technique data collection is with use questionnaire , the number of respondents (sample) is determined from amount passenger population during 15 operations .

Data sources used in This research consists of from primary data sources and secondary data sources . Primary data sources are obtained from results observation directly in the field with observe activities at the Port. While secondary data sources obtained from data and information available at the agency related . Both the source of the data will used For analyze and obtain clear picture about condition services at Baai Island Ferry Port.

analysis technique that will be used in This research is Index satisfaction customer *(Customer Statification Index)* is an analysis to determine the level of user satisfaction as a whole by considering the level of importance of service attributes. Furthermore analysis *Importance Performance Analysis* (IPA) is method Which map perception user service to level interest (*Importance*) And level performance (*Performance*) from aspect service For identify necessary services improved . *Importance Performance Analysis* (science) consists of from Performance Gap Analysis - *Importance* and Mapping Quadrant *Importance Performance Analysis* based on results evaluation level interest And level performance .

3. Result and Discussion

. Port Service Assessment Analysis

This data analysis is based on from the data obtained during do survey about evaluation service port at Baai Ferry Port with use runway law Regulation Director General Land Transportation Number: KP.5062/AP 005/DRJD/2020 concerning Guidelines Evaluation To Implementation Standard Ferry Port Services . And the data is processed through help application *Microsoft Excel* 2010, as following .

Table 1. Values Passenger Services at Baai Island Ferry Port

NO	SERVICE DESCRIPTION	WEIGHT	*SCORE*	TOTAL *SCORE*
A	Port Passenger Services			
A.1	Services at the Passenger Terminal			
1	Safety	1.56%	0%	
2	Security	3.00%	1.5%	
3	Comfort	2.75%	2%	
4	Convenience / Affordability	2.98%	1.34%	
5	Reliability / Regularity	3.00%	3%	
6	Equality	3.00%	0%	
A.2	Service in Waiting Room			
1	Safety	3.48%	0%	
2	Security	3.49%	1.16%	
3	Comfort	3.52%	2.2%	
4	Convenience / Affordability	3.50%	1.74%	

NO	SERVICE DESCRIPTION	WEIGHT	*SCORE*	TOTAL *SCORE*
5	Reliability / Regularity	3.50%	3.5%	
6	Equality	3.52%	0%	
A3	Services at *Gangway*			
1	Security	3.51%	0%	
2	Comfort	3.50%	0%	
3	Equality	3.50%	0%	
TOTAL				16.44%

Table 2. *Value* of Ship Services at Baai Island Ferry Port

NO	SERVICE DESCRIPTION	WEIGHT	*SCORE*	TOTAL *SCORE*
B.1	Port Ship Services			
B.1	Services at the Passenger Terminal			
1	Safety	6.51%	0%	
2	Comfort	6.48%	4.86%	
3	Reliability / Regularity	6.50%	6.5%	
TOTAL				11.36%

Table 3. Service Value Baai Island Ferry Port Vehicles

NO	SERVICE DESCRIPTION	WEIGHT	*SCORE*	TOTAL *SCORE*
C	Service Port Vehicles			
C.1	Service Vehicles on the Weighbridge			
1	Safety	2.40%	0%	
2	Security	2.40%	0%	
3	Comfort	2.40%	0%	
4	Convenience and Affordability	2.40%	0%	
5	Reliability and Regularity	2.40%	0%	
C.2	Service Vehicles at the Counter			
1	Comfort	2.50%	2.5%	
2	Convenience and Affordability	2.51%	2.51%	
3	Reliability and Regularity	2.51%	1.26%	
C.3	Service Vehicles in the Waiting Parking Lot			

1	Comfort	2.49%	2.49%	
2	Reliability and Regularity	2.51%	2.51%	
C.4	Service Vehicles in the Parking Lot Ready to Load			
1	Comfort	3.26%	3.26%	
2	Reliability and Regularity	3.24%	2.16%	
TOTAL				16.69%

Based on calculation results survey , Baai Ferry Port services received mark following .

Baai Port Service Value = Service Value (Passengers + Ships + Vehicles)
= 16,44%+ 11.36% + 16.69%
= 44.49%

So the value For The service of Baai Ferry Port is 44.49% and is in Classification D with The Less Good category has value ≤ 50.

3.2. Analysis level Satisfaction Service Users

Customer Satisfaction Index (CSI) analysis can become measure measuring party manager harbor about level satisfaction user service to service port at Baai Island Ferry Port. Analysis satisfaction user services at Baai Island Ferry Port overall done with count mark *Customer Satisfaction Index* (CSI) as following.

Table 4. Analysis of Satisfaction Level Service Users

Instrument No. (X, Y)	Mean Importance Score (*MIS*)	Mean Performance Score/ *Mean Satisfaction Score* (MSS)	*Weight Factor* (WF)%	*Weight Score* (WS)%
1	3.4	1.68	1.65	2.76
2	3.5	1.37	1.69	2.32
3	3,5	1,73	1,69	2,92
4	3,6	1,48	1,74	2,57
5	3,5	1,37	1,69	2,32
6	3,7	1,48	1,79	2,64
7	3,7	1,41	1,79	2,52
8	3,7	1,4	1,79	2,50
9	2,1	1,59	1,01	1,61
10	3,6	1,72	1,74	3,99
11	3,5	1,4	1,69	2,37

Instrument No. (X, Y)	Mean Importance Score (*MIS*)	Mean Performance Score/ *Mean Satisfaction Score* (MSS)	*Weight Factor* (WF)%	*Weight Score* (WS)%
12	3,5	1,56	1,69	2,64
13	3,5	1,53	1,69	2,59
14	3,5	1,37	1,69	2,32
15	1,5	1,68	0,72	1,22
16	1,9	1,37	0,92	1,26
17	2,1	1,73	1,01	1,75
18	1,6	1,48	0,77	1,14
19	1,6	1,84	0,77	1,42
20	1,4	3,64	0,67	2,46
21	1,7	3,66	0,82	3,00
22	3,7	1,46	1,78	2,61
23	3,6	1,68	1,73	2,92
24	3,6	3,7	1,74	6,43
25	3,5	3,59	1,69	6,07
26	3,5	3,58	1,69	6,05
27	3,5	1,37	1,69	2,32
28	3,5	1,48	1,69	2,50
29	1,6	1,41	0,77	1,09
30	3,6	3,61	1,74	6,28
31	3,5	3,62	1,69	6,12
32	3,4	3,6	1,64	5,91
33	3,7	3,76	1,79	6,72
34	1,5	1,5	0,72	1,09
35	3,7	3,53	1,79	6,31
36	1,4	3,47	0,68	2,35
37	1,8	3,63	0,87	3,16
38	1,5	1,47	0,72	1,06
39	3,6	3,85	1,74	6,69
40	3,7	3,68	1,79	6,58
41	3,6	3,59	1,74	6,24
42	3,6	3,58	1,74	6,22
43	3,8	1,59	1,84	2,92

Instrument No. (X, Y)	Mean Importance Score (*MIS*)	Mean Performance Score/ *Mean Satisfaction Score* (MSS)	*Weight Factor* (WF)%	*Weight Score* (WS)%
44	3,7	1,4	1,79	2,50
45	3,6	1,84	1,74	3,20
46	3,7	1,24	1,79	2,22
47	3,56	1,65	1,72	2,84
48	3,59	1,24	1,74	2,15
49	1,53	3,58	0,74	2,65
50	1,89	3,61	0,91	3,29
51	3,58	1,41	1,73	2,44
52	1,64	3,74	0,79	2,96
53	1,47	3,65	0,71	2,59
54	3,43	1,58	1,66	2,62
55	3,57	1,35	1,72	2,33
56	3,49	1,75	1,69	2,95
57	3,65	1,26	1,76	2,22
58	1,59	3,68	0,77	2,83
59	3,68	3,74	1,78	6,65
60	1,41	1,56	0,68	1,06
61	3,71	1,53	1,79	2,74
62	3,39	3,73	1,64	6,11
63	3,62	3,8	1,75	6,64
64	3,57	1,76	1,72	3,03
65	1,43	1,44	0,69	10,99
66	3,56	3,66	1,72	6,29
67	3,49	3,69	1,69	6,22
68	1,45	1,62	0,70	1,13
69	1,62	1.72	0.78	1.35
70	1.67	1.55	0.81	1.25
71	1.48	1.67	0.71	1.19
TOTAL	207.07	163.69	100	229

$$CSI = \sum \frac{k=1 pWSi}{HS\,(4)\times 100\%}$$

Information:

HS: *High Score* (the highest Likert scale used in the questionnaire)

$$\text{CSI} = \frac{229}{4} = 57\%$$

From the calculations using the *Customer Satisfaction Index* (CSI) formula, it was found that the level of user satisfaction at the Pulau Baai Ferry Port was 57%.

In method *Customer Satisfaction Index* (CSI) There are 5 categories value , following table category mark *customer satisfaction index* (CSI):

Table 5. CSI Value Categories

NO	MARK INDEX	CATEGORY
1	81%-100%	VERY SATISFIED
2	61%-80%	SATISFIED
3	41%-60%	ENOUGH SATISFIED
4	21%-40%	NOT ENOUGH SATISFIED
5	0%-20%	NO SATISFIED

3.3. *Importance Performance Analysis* (IPA) Analysis

3.3.1. Analysis Gap (GAP *Importance performance*)

So here's the following is results data processing from difference between performance provided by the party harbor with passenger interests . Based on questionnaire that has been distribute to respondents in the table following .

1) The Gap Service Passenger

Table 6. Gaps Passenger Services

Safety				
No	Instrument	Interest	Performance	GAP
1	1	3.38	1.70	-1.68
2	2	3.50	1.66	-1.84
No	Instrument	Interest	Performance	GAP
3	3	3,53	1,75	-1,78
4	4	3,60	1,49	-2,11
5	5	3,53	1,38	-2,15
6	6	3,66	1,49	-2,17

7	7	3,65	1,42	-2,23
8	8	3,67	1,82	-1,85
9	9	2,05	1,61	-0,44
10	10	3.60	1.74	-1.86
Security				
No	Instrument	Interest	Performance	GAP
11	11	3.50	1.4	-2.1
12	12	3.50	1.56	-1.94
13	13	3.50	1.53	-1.97
14	14	3.50	1.37	-2.13
15	15	1.50	1.68	0.18
16	16	1.90	1.37	-0.53
17	17	2.10	1.73	-0.37
18	18	1.60	1.48	-0.12
19	19	1.60	1.84	0.24
Comfort				
No	Instrument	Interest	Performance	GAP
20	20	1.40	3.64	2.24
21	21	1,70	3,66	1,96
22	22	3,70	1,46	-2,24
23	23	3,60	1,68	-1,92
24	24	3,60	3,70	0,1
25	25	3,50	3,59	0,09
26	26	3,50	3,58	0,08
27	27	3,50	1,37	-2.13
28	28	3.50	1.48	-2.02
Convenience and Affordability				
No	Instrument	Interest	Performance	GAP
29	29	1.60	1.41	-0.19
30	30	3.60	3.61	0.01
31	31	3.50	3.62	0.12
32	32	3.40	3.6	0.2
33	33	3.70	3.76	0.06
34	34	1.50	1.50	0
35	35	3.70	3.53	-0.17
36	36	1.40	3.47	2.07

37	37	1.80	3.63	1.83
38	38	1.50	1.47	-0.03
Reliability and Regularity				
No	Instrument	Interest	Performance	GAP
39	39	3.60	3.85	0.25
40	40	3.70	3.68	-0.02
41	41	3.60	3.59	-0.01
42	42	3.60	3.58	-0.02
Equality				
No	Instrument	Interest	Performance	GAP
43	43	3.80	1.59	-2.21
44	44	3.70	1.40	-2.3
45	45	3.60	1.84	-1.76
46	46	3.70	1.24	-2.46
43	43	3.80	1.59	-2.21
44	44	3.70	1.40	-2.3

2) The Gap Ship Service

Table 7. Gaps Ship Services

Safety				
No	Instrument	Interest	Performance	GAP
1	1	3.56	1.65	-1.91
Security				
No	Instrument	Interest	Performance	GAP
2	2	1.59	1.24	-0.35
3	3	1.69	2.96	1.27
4	4	1.89	3.09	1.2
5	5	1.58	1.41	-0.17
Comfort				
No	Instrument	Interest	Performance	GAP
6	6	1.76	3.11	1.35
7	7	1.69	3.06	1.37

3) The Gap Vehicle

Table 8. Gaps Service Vehicle

Safety				
No	Instrument	Interest	Performance	GAP
1	1	3.43	1.58	-1.85
Security				
No	Instrument	Interest	Performance	GAP
2	2	3.57	1.35	-2.22
Comfort				
No	Instrument	Interest	Performance	GAP
3	3	3.49	1.75	-1.74
4	4	3.65	1.26	-2.39
No	Instrument	Interest	Performance	GAP
5	5	1.59	3.68	2.09
6	6	3.68	3.74	0.06
7	7	1.41	1.56	0.15
Convenience and Affordability				
No	Instrument	Interest	Performance	GAP
8	8	3.71	1.53	-2.18
9	9	3.39	3.73	0.34
10	10	3.62	3.80	0.18
Reliability and Regularity				
No	Instrument	Interest	Performance	GAP
11	11	3,57	1,76	-1,81
12	12	1,43	1,44	0,01
13	13	3,56	3,66	0,1
14	14	3,49	3,69	0,2
15	15	1,45	1,62	0,17
16	16	1,62	1,72	0,1
17	17	1,67	1,55	-0,12
18	18	1.48	1.67	0.19

Attributes that have negative gap values mean that port service users indicate that there is a gap between the performance provided by port managers and the interests of port facilities for service users. The highest gap value for passenger services is in attribute 46, namely the equality variable for nursing room services with a gap value (-

) of 2.46. While the lowest gap value is in attribute 20, namely the comfort variable for departure passenger separation lane services with a gap value of 2.24.

The highest gap value for ship services is in attribute 1, namely the safety variable for evacuation route direction services with a gap value of (-) 1.91. While the lowest gap value is in attribute 7, namely the Reliability and regularity variable for ship docking time services with a gap value of 1.37.

The highest gap value for vehicle services is in attribute 4, namely the comfort variable for vehicle weighing equipment services with a gap value of (-) 2.39. While the lowest gap value is in attribute 5, namely the comfort variable for vehicle counter services with a gap value of 2.09.

3.3.2. Analysis Mapping Importance Performance Analysis Quadrant

This analysis was carried out For know attributes that become priority main improvement quality services at the Port Baai Island Crossing . Cartesian diagram is the image that will be map every attributes .

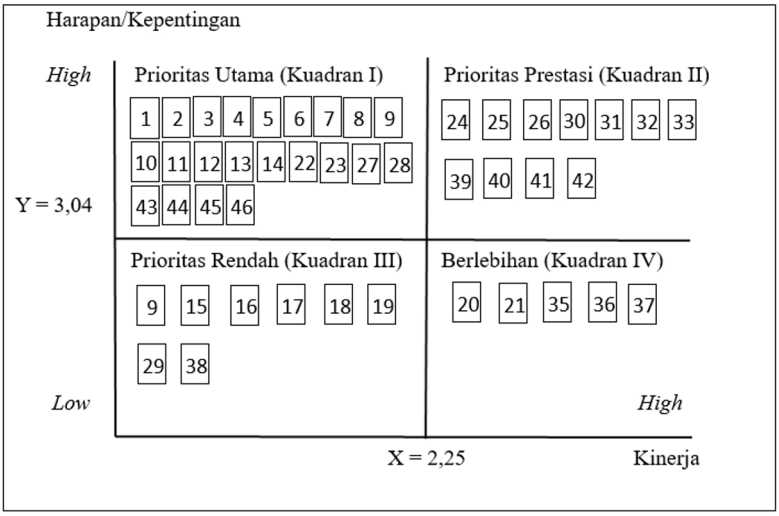

Figure 1. Cartesian Diagram of Importance Performance of Passenger Service

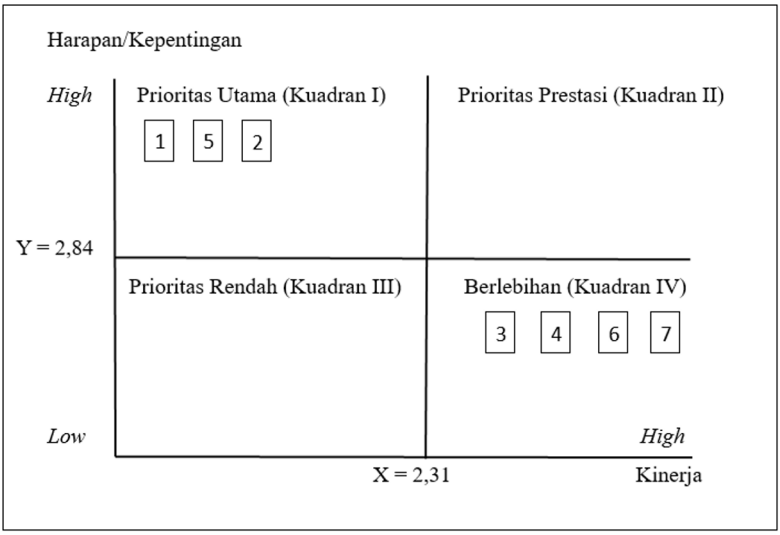

Figure 2. Cartesian Diagram of Importance Performance of Ship Services

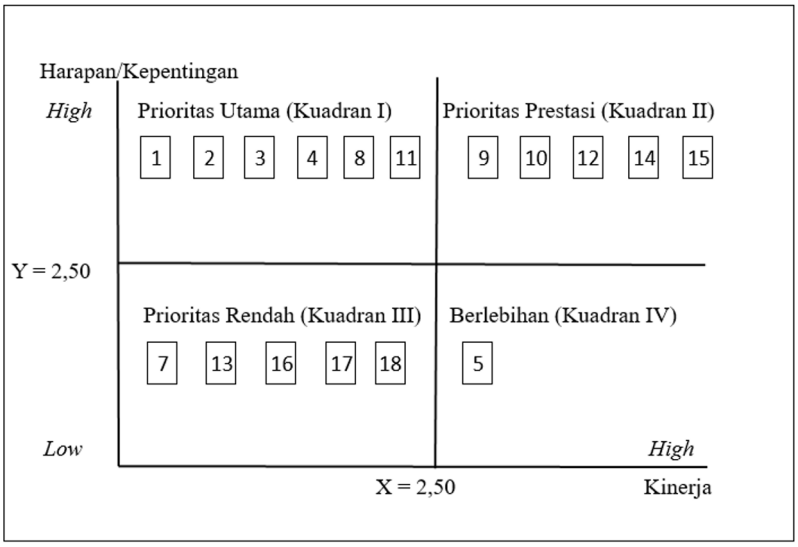

Figure 3. Cartesian Diagram of Service Importance Performance Vehicle

3. 4. Proposal Solution to problem

Several service facilities fall into quadrant I, these service facilities are the main priority for improvements that must be implemented in the sense that these attributes are considered very important by service users but the performance provided by the port management so that improvements must be made and performance must be increased on the attributes contained in quadrant I. In the service at the Baai Island Ferry Port,

there are still facilities that need to be improved, such as the attributes of safety, security, ease of accessibility, and equality.

4. CLOSING

Conclusion

1. The percentage of the standard quality level of passenger, ship, and vehicle services at the Pulau Baai Ferry Port, Bengkulu Province based on the Regulation of the Director General of Land Transportation Number: KP.5602/AP 005/DRJD/2020 concerning Guidelines for Assessment of the Implementation of Ferry Port Service Standards is 44.49% of the maximum percentage of 98% set for passenger service standards at the port and is included in the "D" classification with a less than good category.
2. Passenger service, ship service and vehicle service based on gap analysis obtained attributes that have negative values, each attribute has a negative value which means there is a gap between performance and the interests of service users. Attributes that have a negative gap value mean that service users of Pulau Baai Kapal Ferry Port are less/not yet satisfied with the service.
   a. Passenger Services, the aspect with the largest gap is the aspect of equality for passenger services in the nursing room with a gap value of -2.46.
   b. Ship services, the aspect with the largest gap is the safety aspect for ship services with a gap value of -1.91.
   c. Vehicle services, the aspect with the largest gap is the comfort aspect for vehicle services at weighbridges with a gap value of -2.39.
3. Based on the IPA method calculation method, quadrant I is the main priority, meaning that the attributes in this quadrant are considered very important by passengers, but the performance provided by the port management is not satisfactory, so the port management must improve the performance of the attributes in quadrant I.

4.2. Suggestions

1. To be done repair as well as addition facility services at the Baai Island Ferry Port, Bengkulu Province , which will impact on the percentage calculation level conformity service to passenger in accordance with Regulation Director General Land Transportation Number KP.5062/AP 005/DRJD/2020 concerning Guidelines Evaluation To Implementation Standard Ferry Port Services which are a reference to guidelines evaluation a harbor .
2. Baai Island Ferry Port authorities should quick stage improvements and additions to facility services at the Baai Island Ferry Port in Bengkulu Province so that passengers feel safe and comfortable , good That from aspect safety , security , reliability / regularity , comfort , and convenience / affordability , as well as equality . So that every the year can increase evaluation to standard service harbor crossings contained in the Regulations

Director General Land Transportation Number KP.5062/AP 005/DRJD/2020 concerning Guidelines Evaluation To Implementation Standard Ferry Port Services.

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