Analysis Of Passenger Perception On Ferry Port Service Of Mengkapan At Siak District, Riau Province Using Importance Performance Analysis

Hartanto¹, Kodrat Alam² & Trissa Dhea³

Abstract

The Ferries Port of Mengkapan, Apit River, Siak District, Riau Province. The port plays an important role in improving the economy, particularly the field of transport for the local population. Based on observations in the field, there are some services that have not run well, so service users were dissatisfied and uncomfortable while in The Ferries Port of Mengkapan.

The method used to analyze the existing problems, ie Customer satisfaction Index and Importance Performance Analysis. Based on the analysis results obtained passenger satisfaction index of 43.9%, and there are nine service attributes that are in quadrant I, which should be improved and enhanced.

The suggestions for the Port Authority, namely: (1) held Air Conditioner (AC) 4 pieces of 1.5 PK in the waiting room, repair the damaged chair, and clean the waiting room every day; (2) clean the toilet every day and ensure the availability of clear water; (3) conduct a complete information service facility; (4) expand the parking lot ready for loading and parking shuttle; (5) held a health facility; (6) held an emergency rescue facilities; (7) held CCTV; (8) improve the ticket purchasing process; (9) ensure timely arrival and departure of ships.

Keywords: Analysis; Passenger Perception; Importance Performance Analysis.

1. Introduction

The Ferries Port of Mengkapan, Apit River, Siak District, Riau Province. Ferries the harbor Mengkapan managed and organized by the Provincial Government of Riau and Siak district government to serve the ships Ferries the track of Mengkapan - Punggur Lake, Mengkapan - Tj. Balai Karimun and Mengkapan – Balak Village.

Based on observations in the field during the Job Training, there are some services that have not run well, so service users were not satisfied and comfortable during their stay in The Ferries Port of Mengkapan. This is because some types of services that have not been implemented optimally as the unavailability of information on port plans, information about the time of ticket sales, vessel arrival and departure information, absence of breastfeeding rooms and waiting rooms were uncomfortable.

¹ Director of Inland Water and Ferries Transport Polytechnic of Palembang, E-mail: hartantosatya@gmail.com
² Lecturer of Inland Water and Ferries Transport Polytechnic of Palembang, E-mail: kodratalam78@gmail.com
³ Alumni of Inland Water and Ferries Transport Polytechnic of Palembang, E-mail: trissadhea03@gmail.com
In this thesis, the author tries to analyze how the service perceived by passengers in The Ferries Port of Mengkapan so that in the end can see how the level of performance and level of satisfaction felt by the passengers and see what items are to be maintained and repaired. Based on this background, the author intends to do the research that will be included in the Working Paper Required (KKW) with the title "Analysis Of Passenger Perception On Ferry Port Service Of Mengkapan At Siak District, Riau Province Using Importance Performance Analysis ".

2. Research Method

The method used in this research include methods of data collection and data analysis methods. Methods of data collection using primary data and secondary data. Primary data were obtained that the perception of the passenger to passenger service Mengkapan Harbor Ferries. Secondary data is the data this research productivity last 3 years and the characteristics of the port acquired from the institution Riau Provincial Transport Department, yangdidapat vessel characteristics data from Region IV BPTD Province of Riau and Riau Islands. Methods of data analysis in this research that the validity and reliability of questionnaires distributed to passengers done 3 times test, analysis of the amount of sample that uses a formula slovin where the total population is determined by the productivity of the passengers during the 14 days.

3. Results and Discussion

a. Completion Method Using Importance Performance Analysis

In this research, distributing questionnaires to 100 respondents in accordance with the results of sample calculations. The results of the questionnaire processing is done on the criteria for each item, then searched averaged to obtain the value of importance (importance) and the level of performance (performance).
Table 1
Average Value Rate Importance And Performance For Overall Item

<table>
<thead>
<tr>
<th>Number Attribute</th>
<th>Performance level average (Xi)</th>
<th>Total interest average (Yi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>2.43</td>
<td>3.56</td>
</tr>
<tr>
<td>A2</td>
<td>2.55</td>
<td>3.58</td>
</tr>
<tr>
<td>A3</td>
<td>2.94</td>
<td>3.78</td>
</tr>
<tr>
<td>A4</td>
<td>2.25</td>
<td>3.54</td>
</tr>
<tr>
<td>A5</td>
<td>2.42</td>
<td>3.7</td>
</tr>
<tr>
<td>A6</td>
<td>2.55</td>
<td>3.57</td>
</tr>
<tr>
<td>A7</td>
<td>2.45</td>
<td>3.6</td>
</tr>
<tr>
<td>A8</td>
<td>2.46</td>
<td>3.56</td>
</tr>
<tr>
<td>A9</td>
<td>2.78</td>
<td>3.54</td>
</tr>
<tr>
<td>A10</td>
<td>2.81</td>
<td>3.54</td>
</tr>
<tr>
<td>A11</td>
<td>2.75</td>
<td>3.4</td>
</tr>
<tr>
<td>A12</td>
<td>2.15</td>
<td>3.66</td>
</tr>
<tr>
<td>A13</td>
<td>2.86</td>
<td>3.54</td>
</tr>
<tr>
<td>A14</td>
<td>2.54</td>
<td>3.57</td>
</tr>
<tr>
<td>A15</td>
<td>2.56</td>
<td>3.52</td>
</tr>
<tr>
<td>A16</td>
<td>2.52</td>
<td>3.62</td>
</tr>
<tr>
<td>A17</td>
<td>2.86</td>
<td>3.58</td>
</tr>
<tr>
<td>A18</td>
<td>2.81</td>
<td>3.6</td>
</tr>
<tr>
<td>A19</td>
<td>2.83</td>
<td>3.58</td>
</tr>
<tr>
<td>A20</td>
<td>2.74</td>
<td>3.26</td>
</tr>
</tbody>
</table>
1) Quadrant analysis

Score cut perpendicular to the horizontal axis, that axis reflects the performance attributes (X) or the perception of passengers. While the value of cut perpendicular to the vertical axis, that axis reflects the interests of attributes (Y) or passenger expectations. $X_1Y_1$

Having gained weight and importance of performance attributes as well as the average value of the performance and the interest then these values in the Plot into Cartesian quadrant. Grouping attributes on the quadrant in accordance with the following picture:

![Quadrant Analysis Diagram](image)

**Picture 2**
**Quadrant Importance Performance**
**Source:** SPSS version 24, 2019

2) Decision-making

Based on the results of data analysis using SPSS version 24, has been obtained quadrant importance of performance as follows:

<table>
<thead>
<tr>
<th>Quadrant</th>
<th>Quadrant II</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Main priority)</td>
<td>(Keep Achievement)</td>
</tr>
</tbody>
</table>

**Table 2**
**Quadrant Importance Performance**
<table>
<thead>
<tr>
<th>Number of items:</th>
<th>Number of items:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2,5,6,7,8,12,14,16</td>
<td>3,17,18,19,22</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>quadrant III</th>
<th>quadrant IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Low Priority)</td>
<td>(Exaggerated)</td>
</tr>
<tr>
<td>Number of items:</td>
<td>Number of items:</td>
</tr>
<tr>
<td>4.15</td>
<td>9,10,11,13,20,21,23</td>
</tr>
</tbody>
</table>

Source: *SPSS version 24, 2019*

3) Quadrant I (Priority)

Attributes that are in this quadrant are considered very important by the passenger, but the service is not satisfactory. Port management should prioritize and focus on improving the services that are in this quadrant for the sake of improving the quality of port services.

1) Attribute 1: The waiting room was clean and comfortable,
2) Attribute 2: Toilet clean and odorless,
3) Attribute 5: Services such information,
4) Attribute 6: Adequate parking facilities,
5) Attribute 7: Medical facility,
6) Attribute 8: Emergency rescue equipment facility,
7) Attribute 12: Abatement crime (CCTV),
8) Attribute 14: Ticket purchasing process,
9) Attribute 16: Timeliness of arrival and departure of the ship.

4) Quadrant II (Preserve Achievement)

Attributes that are in quadrant II are considered very important by passengers and satisfactory service performance. Port management must maintain the service quality.

1) Attribute 3: Mushola comfortable, clean and odorless,
2) Attribute 17: Officers helped the difficulties passengers,
3) Attribute 18: Responsiveness officer to provide information to passengers,
4) Attribute 19: Sense of security while in port,
5) Attribute 22: Alertness officer in selling tickets.

5) Quadrant III (Low Priority)

The attributes in this quadrant are considered less important by passengers and the service less than satisfactory. The Port Authority is recommended to not make those attributes in quadrant III as a priority in improving the quality of port services.

1) Attribute 4: Nursing areas and passenger facilities difable,
2) Attribute 15: Login to ship quickly and securely.
6) Quadrant IV (Redundant)

Attributes that are in this quadrant are considered less important by passengers but services satisfactory. The Port Authority is recommended to not make those attributes in quadrant IV as a priority in improving the quality of port services.

1) Attribute 9: Security officers are easily recognizable,
2) Attribute 10: Officers serving passengers easily recognizable,
3) Attribute 11: Passenger baggage facilities / porter,
4) Attribute 13: Lane passenger / gangway,
5) Attribute 20: Knowledge about the services at the port officer,
6) Attribute 21: The availability of staff to handle complaints of passengers,
7) Attribute 23: The friendly attitude of officers to passengers

c. Troubleshooting

In the problem solving will focus on the quadrant one because it is a high priority or something that is considered important passenger but the service is not satisfactory, therefore, the manager of the port should increase or improve the quality of service on the attributes that are in quadrant one.

1) Attribute 1: Waiting Room was clean and comfortable,
Port management must focus on improving the waiting room so that passengers feel comfortable while waiting for the departure of the ship, this can be done by means of holding the air conditioning at 6 PK accordance with spacious lounge area that is equal to 144m2 for 1 PK air conditioner can cool 24m2, it is necessary in pairs 4 (four) air conditioner 1.5 PK on each side of the lounge, repair broken chairs, installing air freshener, cleaning the waiting room on a regular basis by creating a schedule janitor waiting room every day.

2) Attribute 2: Toilet clean and odorless,
For now needs toilet passengers have three (3) toilets male and three (3) women's toilets but the toilets were not maintained, therefore, the Port Authority must provide toilets are clean and odorless and clean water enough. This can be done by cleaning the toilet regularly by creating a schedule janitor toilet every day, installing air freshener in the toilet, and always ensure the availability of clean water in the toilet.

3) Attribute 5: Services such information.
Existing condition on the current port only provide information about rates and travel destinations of ships which are in the waiting room. Port management must provide a complete information service facilities so that passengers are not confused when in port. The service facility information in the form of sketch ports in pairs in the initial entry port / gateway port, a sticker that contains the phone number of complaints passengers in pairs place that is easily visible, service table information is placed in front of the terminal building, speaker announcement in pairs outside the lounge, ticket sales time schedules, arrival and departure aboard and advanced transportation information that must be contained in the information services board placed in front of the counter.

4) Attribute 6: Adequate parking facilities,
Needs parking lot ready for loading and inter - pickup obtained by calculation in the appendix of Transportation Minister Decree Number KM. 52 of 2004 on the Implementation of the Port Ferries.
1. Gap Analysis Center Ready to Load

To calculate the area of the parking lot ready for loading vehicles can use the formula:

\[ A = a \times n \times N \times x \times y \] .......................... (14)

Information:
- \( A \): The total area of the parking lot for vehicles Ferries (M2)
- \( a \): The area required for a road vehicle
  - gol VII = 60 m²
  - gol VI = 45 m²
  - gol V = 25 m²
  - gol IV = 25 m²
- \( n \): The number of vehicles in a single vessel
- \( N \): The number of boats coming / leaving at the same time
- \( x \): Average utilization (1.0)
- \( y \): The concentration ratio (1.0 to 1.6)

To determine the concentration ratio can be calculated by the following formula:

\[ \text{Ratio Concentrate} (y) = \frac{\sum \text{Vehicles}}{\text{Ship Capacity}} \]

\[ \text{Ratio Konsentrasi} (y) = \frac{28}{24} = 1.167 \text{ rounded to 1.2} \]

To determine the proportion of the vehicle, taken from the total of vehicles per category divided by the total production of the ship for 14 days

Then the formula is:
\[ \frac{\sum \text{Each Vehicles}}{\text{Total Production}} \times 100\% \]

- Group IV (Passenger Vehicles) = 152 vehicles
- Group V (2 Ton Truck) = 128 vehicles
- Group VI (4 Ton Truck) = 23 vehicles
- Group VII (Trucks 8 Tons) = 3 vehicles
- total production = 306 vehicles

Calculations then as follows:

a. The proportion of vehicle class IV = \[ = \frac{152}{306} \times 100\% = 49.67\% \]
b. The proportion of vehicles classes V = \[ = \frac{128}{306} \times 100\% = 41.83\% \]
c. The proportion of vehicle class VI = \[ = \frac{23}{306} \times 100\% = 7.51\% \]
d. The proportion of vehicle class VII = \[ = \frac{3}{306} \times 100\% = 0.98\% \]
In determining the number of vehicles in a vessel (n) using data on the number of vehicles most in one day during a survey of productivity departure of the ship for 14 days, where the highest number of vehicles during the survey divided by the number of trips.

So the calculation is:

\[
\text{Capacity Vehicle (n)} = \frac{\sum_{\text{vehicles}}}{\text{Total Trips}} = \frac{28 \text{ vehicles}}{1 \text{ Trip}} = 28 \text{ vehicles}
\]

Thus, the extent of the parking lot ready for loading for each group are:

1) Trucks 8 Ton (Gol. VII - IX)
\[
A_1 = A \cdot n \cdot N \cdot x \cdot y
\]
\[
A_1 = 60 \text{ m}^2 \times 28 \times 0.98\% \times 1 \times 1.0 \times 1.2
\]
\[
A_1 = 19.75 \text{ m}^2
\]

2) Truck 4 Tons (Gol. VI A - VI B)
\[
A_2 = A \cdot n \cdot N \cdot x \cdot y
\]
\[
A_2 = 45 \text{ m}^2 \times 28 \times 7.51\% \times 1 \times 1.0 \times 1.2
\]
\[
A_2 = 113.55 \text{ m}^2
\]

3) Truck 2 Ton (Gol. VA - VB)
\[
A_3 = A \cdot n \cdot N \cdot x \cdot y
\]
\[
A_3 = 25 \text{ m}^2 \times 28 \times 41.83\% \times 1 \times 1.0 \times 1.2
\]
\[
A_3 = 351.37 \text{ m}^2
\]

4) Passenger Vehicle (Goal IV A - IV B)
\[
A_4 = A \cdot n \cdot N \cdot x \cdot y
\]
\[
A_4 = 25 \text{ m}^2 \times 28 \times 49.67\% \times 1 \times 1.0 \times 1.2
\]
\[
A_4 = 417.22 \text{ m}^2
\]

\[A_{\text{total}} = 19.75 \text{ m}^2 + 113.55 \text{ m}^2 + 351.37 \text{ m}^2 + 417.22 \text{ m}^2\]
\[= 901.89 \text{ m}^2\]

Extents calculation based on the needs of the parking lot is ready for unloading, parking lot ready for loading required in the amount of 901.89 m².

2. Vehicle Parking Area Analysis Introduction And picking up

The following parking lot area requirements picking up delivery vehicles:

\[
A = a \cdot n_1 \cdot N \cdot x \cdot y \cdot z \cdot 1 \cdot n_2
\]

Information :
\[
A = \text{Area Total Area Center For Inter Vehicle / Pick}
\]
\[
a = \text{Total Area Needed for a road vehicle (public transportation and private = 25 m²)}
\]
n1 = Number of Passengers in One Boat
n2 = Number of Passengers in One Vehicle (Average 8 orang / vehicle)
N = Number of Ships Come / Leave on time with (1 ship)
x = Average Utilization (1.0)
y = The concentration ratio (1.0 to 1.6)
z = Average Utilization (1.0: Leaving Passenger Terminal entire drive)

To determine the concentration ratio can be calculated by the following formula:

\[ \text{Ratio Concentrate } (y) = \frac{\sum \text{passengers}}{\text{ship capacity}} \]

\[ \text{Ratio Concentrate } (y) = \frac{192}{300} = 0.64 \text{ rounded to 1.0} \]

To determine the number of passengers in the vessel (n), drawn from the data characteristics of the ship KMP Satria Pratama which has the largest payload capacity of 300 people.

\[ A = a \cdot n1 \cdot N \cdot x \cdot y \cdot z \cdot \frac{1}{n2} \]
\[ = 25 \text{ m}^2 \times 300 \times 1.0 \times 1.0 \times 1.0 \times \frac{1}{8} \]
\[ = 937.5 \text{ m}^2 \]

Thus, the introduction of the pickup spacious parking lot that is required is 937.5 m².

The condition of the parking area is not currently adequate for shuttle parking area is not sufficient to accommodate delivery vehicles and pick-up so people parked their vehicles on the roadside, it is certainly creating a bottleneck in the flow in and out of the harbor. For parking ready for unloading, all vehicles combined into one and no place to park their two-wheeled vehicles are going to fit into the vessel so that the two-wheeler riders confusion parked vehicle. For stays parking area itself has a considerable extent. Port management must provide facilities ready for loading adequate parking with an area sufficient for all types of vehicles are going to fit into the vessel and must provide shuttle vehicle parking lot broader, so that the circulation flow in and out of the port smoothly and there is no congestion. The area is now ready for loading perkir area of 804 m² to the extent planned in the amount of 901.89 m², shuttle parking area measuring 780 m² is currently planned for an area that is an area of 937.5 m².

5) Attribute 7: Medical facility.
Existing conditions at the port is currently only available wheelchair. Therefore, the Port Authority must provide health facilities for such facilities is especially important if there are people who are sick and there is a crash in the harbor area. The health facilities should be provided that special space health, P3K equipment, health workers and stretchers.

6) Attribute 8: Emergency rescue equipment facility,
Existing conditions at the port is not available emergency rescue facility. It should be known, the facility is very important in case of an emergency that is not desirable, therefore, the Port Authority must provide such facilities. The emergency rescue facility shall provide a fire
extinguisher mounted in the reception area and near the parking area, evacuation routes, meeting points for evacuation and emergency phone numbers.

7) Attribute 12: Abatement crime (CCTV),
To date there is no CCTV in the area peabuhan, to prevent crime in the harbor so it is important to install CCTV so that the officer can supervise port activities in the port, thus preventing a person for a criminal act and activities at the port can run well. CCTV planned spot is in front of the entrance to the port area, in the lounge, in the parking area and near the pier MB.

8) Attribute 14: Ticket purchasing process,
Existing Condition ticket purchasing process is currently very bad because passengers have to jostle while standing in ticket purchase due to the unavailability of ticket information and ticket sales are only open 2 hours prior to vessel loading activities (unloading). Therefore, port management should improve further the process of buying tickets, it can be a load time information or ticket sales counters should be opened at any time so that passengers do not wait in front of the counter and jostling queue and create a path to queue to purchase a ticket.

9) Attribute 16: Timeliness of arrival and departure of ships,
Port Authority should improve its service in terms of punctuality of arrival and departure of the ship. Often hampered the ship's departure and not as a vehicle loading properly because of time-consuming long time. Thus the port management should perform loading patterns quickly and accurately, and therefore the need of making the weighbridge and the portal to the vehicle before entering the port, so that the vehicle was about to depart immediately known weight and height so that the loading of the ship can proceed smoothly. Port management should also provide information to passengers when the arrival of the vessel is inhibited by using speaker announcements.

4. Closing
a. Conclusions

1) Results of analysis using satisfaction Customer Index found that the percentage of votes against the passenger service in The Ferries Port of Mengkapan with the amount of 43.9%.

2) Based on the analysis results obtained Cartesian quadrant map Importance Performance as follows:

Picture IV.1 Quadrant Importance Performance
Source: SPSS version 24, 2019
Based on the analysis, there are nine (9) service attributes in quadrant I, which should be improved and enhanced, 5 (five) attributes in quadrant II, which must be maintained its quality, two (2) attributes in quadrant III and 7 (seven) attributes in quadrant IV is considered less important by passengers so as not to be a priority for repair.

b. Suggestions

1) From the analysis of the questionnaire can be seen there are nine (9) service attributes that are in quadrant I (highest priority), then the port management should enhance and improve the services that are in quadrant to improve the quality of port services in the future so that passengers feel satisfied and comfortable located in The Ferries Port of Mengkapan.

2) This research still needs to be improved, including service attributes contained in the questionnaire is not locked by a questionnaire form which is provided in this study.

5. References

5) Act No. 17 of 2008 on The Voyage
6) *Indonesian Government Regulation No. 61 of 2009 on Port*
7) *Minister of Transportation Regulation No. 39 of 2015 About Minimum Service Standards for Passenger Ferries Transport*
8) *Transportation Minister Decree No. 52 of 2004 on Transport Penyeenggaraan Ferries*
9) *Director General of Land Transportation Regulation No. SK.2681 / AP.005 / DrJD 2006 on the Operation Harbor Ferries*