

# Technical Review of Port Terminal Services Ferry Seba Sabu Raijua

Deasi D. A. A. Daud<sup>1</sup>, Anie Adrianti Tuati<sup>2</sup> and Yacob V. Hayer<sup>2</sup>

<sup>1</sup>Civil Engineering Department, State Polytechnic of Kupang, Adi Sucipto Street, Kupang, Indonesia

<sup>2</sup>Civil Engineering Department, State Polytechnic of Kupang, Kupang, Indonesia

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**Abstract:** Seba Ferry Port is one of the passenger ports that serves as a means of supporting sea transportation from or to Sabu Raijua Regency. However, in carrying out daily service activities at Seba Port, there are several problems that are often experienced by some users related to the services provided, such as an uncomfortable waiting room, the number of broken chairs, the condition of the toilets being not maintained, lighting that does not work, not working properly. There is a smoking area and there is no health service room. This analysis is done by calculating Importance Performance analysis, Customer Satisfaction Index and peak hour calculations. The results of the study found that other Port Terminal Facilities Factors that had met expectations (such as: toilets, waiting rooms and others) entered the criteria of being dissatisfied and became a top priority for performance improvement by the Port terminal manager. The number of vehicles that can be parked inside the Seba Sabu Ferry Terminal is 148 vehicles, if it is known that the peak hour is 86 vehicles, then the Port terminal for the current vehicle area is still sufficient for the planned vehicle parking capacity.

## 1 INTRODUCTION

Transportation is a vital element in the life of the nation and in fostering national unity and integrity. Development in the transportation sector as a supporter of the development of other sectors in realizing national development targets in all regions, both in urban and rural areas. transportation development cannot stand alone and cannot be separated from the development of other sectors such as the economic, population, social and so on (IMOT, 2017).

The existing means of transportation on land, sea, and air play a vital role in the socio-economic aspect through the distribution function between one region and another. Distribution of goods, people, and others. it will be easier and faster if the existing transportation facilities function properly so that transportation can become one of the means to integrate various regions in Indonesia. Through transportation, people from one region to another can feel the results of average production and the results of existing development.

A port is a place consisting of land and/or waters with certain boundaries as a place for government activities and business activities that are used as a place for ships to dock, up and down passengers, and/or loading and unloading of goods, in the form of

terminals and ship berths equipped with shipping safety and security facilities and port support activities as well as a place for intra- and intermodal transportation (MOTR, 2015).

Seba Ferry Port is one of the passenger ports that serves as a means of supporting sea transportation to or from Sabu Raijua Regency. Seba Port plays an important role, one of which is to help smooth the rotation of the wheels of trade between provinces, between islands such as the delivery of agricultural products, livestock products, goods and others from Makassar Province to Sabu Raijua Regency, from Sabu Island to Timor Island (Kupang City), or vice versa, and from/to several other islands. However, in carrying out daily service activities at Seba port, there are several problems that are often experienced by some users regarding the services provided, such as an uncomfortable and dirty waiting room (a fan that doesn't work properly), the number of broken seats, the state of the toilet. that are not maintained (dirty), lighting that does not work, there is no smoking area (smoking area) and the absence of a health service room, so that it really causes an uncomfortable feeling in the terminal room at the port for that it is necessary to research on the quality of services provided by the Seba terminal port and efforts to improve services that need to be carried out.

To find out how to improve the quality of service at the Seba port terminal, a study is needed that can provide an explanation of the service in the existing condition, and what kind of service quality should be provided to service users at the port terminal.

From the background above, it can be formulated that what are the factors that influence the assessment of services at the Seba port terminal on their use and how port service users perceive the services at the Seba port terminal provided, as well as how the vehicle parking capacity in the port is.

The objectives to be achieved in this study are to find out what factors influence the assessment of service users on services at the Seba Port terminal, to know the perceptions of service users in assessing the services provided at the Seba Port terminal and to know the vehicle parking capacity at peak hours (peak hour) inside Seba Port Terminal.

## 2 RESEARCH METHODOLOGY

### 2.1 Research Stages

The research stages begin with initial observations, data collection, data processing and analysis, to drawing conclusions and suggestions. This research starts from identifying problems that occur after direct observation in the study area. This is done to find out the problems that occur in the study area. The area of study and the scope of issues to be discussed are also limited. The analysis stage is a follow-up after data processing is completed. The purpose of this stage is to understand and analyze the results of data processing in depth. The analysis is carried out by using Validity and Reliability Tests on service quality, Importance Performance Analysis (IPA), Customer Satisfaction Index (CSI) and Calculation of parking capacity (Tuati, 2013).

#### B. Data Collection

There are 4 stages of data collection method, namely the first stage of the interview, namely the method of collecting data by asking and answering questions. The second stage is a questionnaire, which is a method of collecting data by compiling a list of questions or questionnaires to respondents in writing, making it easier to process data. The third stage is a literature study and the last is a research instrument, a research instrument used in the form of a list of questions or questionnaires consisting of 15 questions about the importance of service quality and 15 questions about service quality performance at port terminals (Wiranta, 2014).

## 3 RESULT AND DISCUSSION

### 3.1 Determination of the Number of Samples

#### 3.1.1 Calculation of Determining the Number of Passenger Respondents at the Sabu Raijua Ferry Port

From ASDP data from Sabu Seba Port, it is known that the average number of passengers at the Sabu Seba Ferry Port is 1,550,000 per day. This number is then used as the total population (N) that will be used as the research sample. The value of the degree of determination is 90% or the bound of error (B) is set = 0.1

From the calculation results obtained the number of samples:

$$n = \frac{1.550.000 \times 0,5(1 - 0,5)}{(1.550.000 - 1)0,0025 + 0,5(1 - 0,5)}$$

= 99,99 sample is rounded to 100

#### 3.1.2 Calculation of Determination of the Number of Respondents Transportation Crew (Driver) at the Sabu Raijua Ferry Port

From ASDP data from Sabu Raijua Port, it is known that the average number of passengers (drivers) at Sabu Seba Port is 492 per day. This number is then used as the total population (N) that will be used as the research sample. The value of the degree of determination is 90% or the bound of error (B) is set = 0.1

From the calculation results obtained the number of samples:

$$n = \frac{492 \times 0,5(1 - 0,5)}{(492 - 1)0,0025 + 0,5(1 - 0,5)}$$

= 83,24 sample is rounded to 100

### 3.2 Validity and Reliability Test

#### 3.2.1 The Results of the Validity and Reliability Test of the Sabu Seba Ferry Port Terminal Service for Transportation Passengers

a. Test the validity and reliability of the service quality of the Sabu Seba Ferry Terminal

Table 1: Test the Validity of Terminal Service Quality Assessment Sabu Seba . Ferry Port.

Symbol	r count	r table	Information
b1	0,342	0,197	Valid
b2	0,331	0,197	Valid
b3	0,332	0,197	Valid
b4	0,451	0,197	Valid
b5	0,225	0,197	Valid
b6	0,236	0,197	Valid
b7	0,831	0,197	Valid
b8	0,541	0,197	Valid

The results of the validity test in Table 1 show that all questions for the service quality variable have a correlation value greater than 0.197 so that they are considered valid and can be included in the next analysis process. Likewise, the Cronbach's Alpha value for the question of terminal service quality is  $0.812 > 0.60$ , then overall the measuring instrument is said to be reliable or has reliable internal consistency.

b. Test the validity and reliability of the assessment of the interests of the Sabu Seba Ferry Port Terminal Services

Table 2: Test the Validity of the Assessment of the Interest of Terminal Services Sabu Seba. Ferry Port.

Symbol	r count	r table	Information
c1	0,340	0,197	Valid
c2	0,751	0,197	Valid
c3	0,702	0,197	Valid
c4	0,501	0,197	Valid
c5	0,501	0,197	Valid
c6	0,341	0,197	Valid
c7	0,425	0,197	Valid
c8	0,502	0,197	Valid

The results of the validity test in Table 2 show that all questions for the service quality variable have a correlation value greater than 0.197 so that they are considered valid and can be included in the next analysis process. Likewise, the Cronbach's Alpha value for the question of terminal service quality is  $0.830 > 0.60$ , then overall the measuring instrument

is said to be reliable or has reliable internal consistency.

### 3.2.2 The Results of the Validity and Reliability Test of the Sabu Seba Ferry Port Terminal Service for Transportation Passengers (Driver)

a. Test the validity and reliability of the service quality of the Sabu Seba Ferry Terminal

Table 3: Test the Validity of Terminal Service Quality Assessment Sabu Seba. Ferry Port.

Symbol	r count	r table	Information
d1	0,340	0,197	Valid
d2	0,320	0,197	Valid
d3	0,340	0,197	Valid
d4	0,502	0,197	Valid
d5	0,224	0,197	Valid
d6	0,231	0,197	Valid
d7	0,851	0,197	Valid

The results of the validity test in Table 3 show that all the questions for the service quality variable have a correlation value greater than 0.197 so that they are considered valid and can be included in the next analysis process. Likewise, the Cronbach's Alpha value for the question of terminal service quality is  $0.765 > 0.60$ , then overall the measuring instrument is said to be reliable or has reliable internal consistency.

b. Test the validity and reliability of the assessment of the interests of the Sabu Seba Ferry Port Terminal Services

Table 4: Test the Validity of the Assessment of the Interest of Terminal Services Sabu Seba. Ferry Port.

Symbol	r count	r table	Information
e1	0,811	0,197	Valid
e2	0,560	0,197	Valid
e3	0,433	0,197	Valid
e4	0,961	0,197	Valid
e5	0,980	0,197	Valid
e6	0,960	0,197	Valid
e7	0,960	0,197	Valid

The results of the validity test in Table 4 show that all questions for the service quality variable have a correlation value greater than 0.197 so that they are considered valid and can be included in the next analysis process. Likewise, the Cronbach's Alpha value for the question of terminal service quality is  $0.785 > 0.60$ , then overall the measuring instrument is said to be reliable or has reliable internal consistency.

### 3.3 Importance-Performance Analysis (IPA)

#### 3.3.1 The Level of Importance (Importance) and Performance (Performance) of the Terminal by Passenger

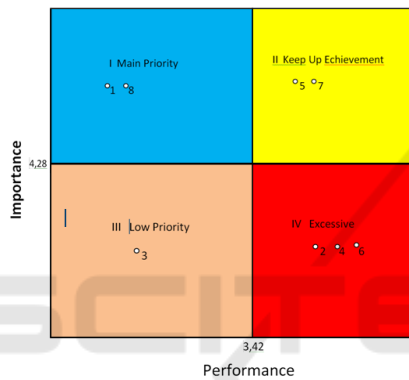


Figure 1: The results of the Importance-Performance Analysis (IPA) diagram by passenger transportation.

The explanation for each quadrant is as follows:

#### I. First Quadrant (Main Priority)

There are two factors located in this quadrant, namely factors other Port Terminal Facilities have met expectations (such as: toilets, waiting rooms, prayer rooms, kiosks, air conditioning temperature control facilities, fans and others) and the passenger terminal provides a special room or place for breastfeeding mothers. This means that port terminal service users are dissatisfied with the service quality of these factors, thus demanding efforts to improve service quality.

Other Port Terminal facilities have not met expectations (such as: toilets, waiting rooms, prayer rooms, kiosks, air conditioning temperature control facilities, fans and others). This is due to waiting rooms and toilets available at the shabu port terminal port, which is not comfortable because it looks not clean. The prayer room facilities are also not available at the Sabu Seba Ferry port terminal, so Muslim

brothers and sisters cannot worship when they are in the port terminal. Air conditioning, fans that do not work properly and there are no room or place facilities especially for breastfeeding mothers.

#### II. Second Quadrant (Keep Up Echievement)

There are 2 factors of port terminal services that have succeeded in occupying this quadrant, namely the port terminal has applicable regulations, and the Port Terminal has good and effective parking regulations to realize a smooth flow. According to respondents, the Port Terminal has regulations that apply where regulations are installed in several places that must be implemented while at the port so that so far passengers feel safe when they are at the port terminal. The Port Terminal has good and effective parking regulations to realize a smooth flow in congested traffic conditions, according to respondents, the parking at the terminal is good, so far the traffic flow at the terminal is smooth, there is no congestion, because there are always officers which regulates the flow of traffic properly.

#### III. Third Quadrant (Low Priority)

There is one factor in the port terminal service that occupies this quadrant and gets a low priority to do, namely the port terminal provides information that is conveyed in the terminal to service users regarding the estimated arrival and departure times of ships. According to the respondents they paid less attention to these factors.

#### IV. Fourth Quadrant (Excessive)

There are three factors that received an over-estimation from respondents, namely the Sabu Seba Ferry Port Terminal providing information on the availability of emergency rescue equipment in danger (fire, accident, or natural disaster) and health facilities for emergency handling, Port Terminal Officers provide you with good service if any problems regarding terminal facilities and port terminals are always under the supervision of internal parties (security officers). According to respondents, the availability of emergency rescue equipment in danger (fire, accident, or natural disaster) and health facilities for emergency handling are always available at the port terminal. And so far, police officers at the port have always been on standby at their respective guard posts and at several points to maintain security and smooth the flow of traffic at the port.

### 3.3.2 The Level of Importance (Importance) and Performance (Performance) Terminal According to the Driver so

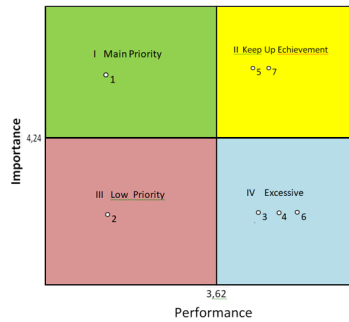


Figure 2: Results of the Importance-Performance Analysis (IPA) Diagram according to the Transport Crew (Driver).

The explanation for each quadrant is as follows:

#### I. First Quadrant (Main Priority)

There is one factor located in this quadrant, namely the other Port Terminal Facility factors that have met expectations (such as: toilets, waiting rooms, prayer rooms, kiosks, air conditioning temperature control facilities, fans and others). This means that port terminal service users (drivers) are dissatisfied because the waiting room and toilets available at the port of the Sabu Seba ferry terminal are not comfortable because they look unclean and the passenger waiting room when in crowded conditions, lots of passengers sitting around floor for not getting a seat.

#### II. Second Quadrant (Keep Up Echievement)

There are 2 factors of port terminal services that have succeeded in occupying this quadrant, namely the port terminal has applicable regulations and the port terminal has good and effective parking regulations to realize a smooth flow. According to respondents, the Port Terminal has regulations that apply where regulations are installed in several places that must be implemented while at the port so that people feel more comfortable when they are at the port. The Port Terminal has good and effective parking regulations to create a smooth flow according to respondents, the existing parking at the terminal is good, so far the traffic flow at the terminal is smooth, there is no congestion.

#### III. Third Quadrant (Low Priority)

There is one factor in the port terminal service that occupies this quadrant and gets a low priority to be

carried out, namely the port terminal providing information on the availability of emergency rescue equipment in danger (fire, accident, or natural disaster) and health facilities for emergency handling. according to respondents they pay less attention to these factors.

#### IV. Fourth Quadrant (Excessive)

There are three factors that have been overestimated by respondents, namely the Sabu Seba Ferry Port Terminal provides information that is conveyed in the terminal to service users regarding the estimated time of arrival and departure of ships, Port Terminal Officers provide you with good service if there are problems with Terminal and Terminal facilities The port is always under the supervision of internal parties (security officers). According to respondents, there is always information about the arrival and departure of ships, whether the ship they want to board does not depart according to the specified schedule, this information is obtained from local locations and also several social media so that respondents who want to pick up passengers to the port do not have to come to the port. And according to respondents, so far there are always security officers who are always on standby to maintain security and comfort at the port.

### 3.4 Satisfaction of Port Terminal Service Users

#### 3.4.1 Port Terminal Passenger Satisfaction

The results of the analysis of respondents' answers to eight indicators/attributes of terminal services with the interpretation of the Customer Satisfaction Index value, show that the services provided by terminal managers are quite good, but terminal service users are not satisfied with the factors other port terminal facilities have met expectations (such as: toilets, room waiting, prayer rooms, kiosks, AC temperature control facilities, fans, etc.) with a suitability level of 38% and the interpretation of the CSI value is not satisfied. This assessment is based on the lack of terminal facilities in the waiting room, the absence of a health service room, an area with an unsanitary waiting room atmosphere. And the passenger terminal factor provides a special room or place for breastfeeding mothers with a suitability level of 34% and the interpretation of the CSI value is not satisfied. due to the unavailability of these facilities.

Suggestions for improving the quality of service are prioritized for factors that have a low level of conformity (<50%) as a top priority. The following are some suggestions for improving the service



quality of the Sabu Seba Ferry Port Terminal, Sabu Raijua Regency, East Nusa Tenggara, namely the provision of prayer room facilities, always ensuring that toilets are clean, providing temperature control (AC) facilities, procurement of 1 television facility, widening of the terminal waiting room. Sabu Seba Ferry port, so that there are no more passengers sitting on the floor and providing smoking room facilities (smoking area).

Another factor that must be maintained is the quality of its service because it has met the expectations of service users, namely that the Port Terminal has applicable regulations, the Port Terminal has good and effective parking regulations to realize a smooth flow as the next priority after the main priority has been fulfilled.

The service factor whose implementation is carried out very well by the manager is that the Port Terminal has applicable regulations, the Port Terminal is always under the supervision of internal parties (security officers) and the Port Terminal has good and effective parking regulations to realize a smooth flow.

**3.4.2 Satisfaction of the Port Terminal Transport Crew (Driver)**

The interpretation of the Customer Satisfaction Index value for the transportation crew (driver) shows that in general the services provided by the terminal manager are still good. This can be seen from the value of the ratio between the level of service quality/performance with the level of interest/expectations of users, most of whom get the predicate very satisfied and satisfied. There is only one service quality factor that gets the predicate of being dissatisfied so that it needs to be a top priority for improving service quality, namely the terminal facilities factor (38%).

The proposal to improve the quality of service is prioritized for factors that have a low level of conformity (<50%) as the main priority. There is one factor that has a low level of conformity, namely the availability of supporting facilities at the terminal. The following are some suggestions for improving the service quality of the Sabu Seba Ferry Terminal, Sabu Raijua Regency, East Nusa Tenggara Province, namely the provision of prayer rooms, always maintaining the cleanliness of toilets, providing temperature control (AC) facilities, and widening the waiting room for the Sabu Seba Ferry port terminal, so as not to there was another passenger sitting on the floor.

**3.5 Analysis of Vehicle Parking Capacity in Sabu Seba Port Terminal**

**3.5.1 Calculation of Peak Hours (Peak Hour)**

From the results of the calculation of the number of vehicles entering, the number of vehicles leaving, and the number of vehicles in the terminal before hitting; 06.00, then the following table is obtained:

Table 5: Number of vehicles in Terminal.

No	Hour	Entry Vehicle (Car)
1	06.00 - 07.00	13
2	07.00 - 08.00	14
3	08.00 - 09.00	16
4	09.00 - 10.00	12
5	10.00 - 11.00	42
6	11.00 - 12.00	77
7	12.00 - 13.00	86
8	13.00 - 14.00	83
9	14.00 - 15.00	45
10	15.00 - 16.00	32
11	16.00 - 17.00	12
12	17.00 - 18.00	10

From table 5 above, it can be seen that peak hours occur at: 12.00 – 13.00 and with 86 vehicles.

**3.5.2 Total Capacity of Sabu Seba Port Terminal**

Total bus capacity = 148 vehicles (source: ASDP Sabu Seba Port).

From the analysis of parking capacity, at peak hour (Peak Hour) at the Sabu Seba Port Terminal there are 86 vehicles and the capacity of the Sabu Seba Port Terminal for vehicles (cars) is 148 vehicles.

**4 CONCLUSION**

The conclusions obtained from the data analysis and discussion are:

1. Factors influencing service users' assessments of services at the Sabu Seba Ferry ferry terminal for passenger service users are other port terminal facilities that have met expectations (such as: toilets, waiting rooms, prayer rooms, kiosks, air conditioning temperature control facilities, fans and so on). -other) in quadrant I. these factors are considered important while in terms of satisfaction, service users feel dissatisfied so that they demand that service quality improvements become a top priority by service providers.
2. Factors that influence the assessment of service users on services at the Sabu Seba Ferry ferry terminal for users of transportation crew services (drivers) are factors other port terminal facilities have met expectations (such as: toilets, waiting rooms, prayer rooms, kiosks, AC temperature control facilities, etc.). fans and others) in quadrant I. these factors are considered important, while in terms of satisfaction, service users feel dissatisfied so that they demand that service quality improvements become a top priority by service providers.
3. Perceptions of service users (passengers) of the Sabu Seba Ferry port terminal based on the average satisfaction index value of 8 (eight) service factors of 78.25 percent are included in the very satisfied criteria. other port terminal facilities factors that have met expectations (such as: toilets, waiting rooms, prayer rooms, kiosks, air conditioning temperature control facilities, fans, etc.) enter the criteria of being dissatisfied and become a top priority for performance improvement by the terminal manager.
4. Perceptions of service users (transport crew/driver) at the Ferry Sabu Seba port terminal based on the average satisfaction index value of 7 (seven) service factors of 85 percent fall into the very satisfied criteria. other port terminal facilities factors that have met expectations (such as: toilets, waiting rooms, prayer rooms, kiosks, air conditioning temperature control facilities, fans, etc.) enter the criteria of being dissatisfied and become a top priority for performance improvement by the terminal manager.
5. The number of vehicles (cars) that can be parked inside the Sabu Seba Ferry Terminal Terminal is 148 vehicles if it is known that at peak hours there are 86 vehicles, the terminal for the car area currently still has sufficient capacity for the planned vehicle parking.

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