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Analysis of Fishermen Satisfaction Level at Ujong Baroh Fishing Port, Aceh, Indonesia

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ABSTRACT

The data analysis of the performance index and user satisfaction is needed as a basic data to assess the performance of the Ujong Baroh Fishing Port.This study aims to determine the level of manager performance and the level of user satisfaction with the management of Ujong Baroh Fishing Port. Data collection was carried out during February - March by using questionnaires related to six fishing port facilities such as supply and the quality of the service supply facilities section (clean water, fuel, and ice installation), landing and discharging facilities (docks and anchored pool), and marketing facilities (auction Place). Data analysis used performance Index and Customer Satisfaction Index (CSI). Data showed that the Percentage of the Performance Index value is about 32%. The score indicated that the performance of the Ujong Baroh fishing port is poor. While the value of the user satisfaction index was 59.09%, it indicated that the level of satisfaction of the users of the Ujong Baroh fishing port was categorized into a satisfied category. Generally, user satisfaction and the performance of the Ujong Baroh fishing port is still not optimal. This study recommend to relevant parties that there is a need to improve Ujong Baroh Fishing Port management.

1. Introduction.

Ujong Baroh fishing port is categorized as D type as one of the economic equipment infrastructure built to support the success of fisheries development, especially small-scale fisheries (Hasaruddin et al., 2014). The availability of fishing port facilities are expected not only to provide boat parking space and facilities for processing catches but also to maximize the services for fishery port users (Sabana et al., 2016; Syakuro et al., 2017).

The management performance of Ujong Baroh fishing port is still not optimal. Meutia et al. (2019) states that Ujong Baroh fishing port facilities consist of basic facilities, functional and supporting facilities; and almost are good condition and utilized by fishermen but the availability of these facilities has not been able to fulfill their functions optimally.

Sharaan et al. (2017) stated that the availability of port users certainly has a very important role as the main driver in the fishing ports activities. It is not only a place for public services that can meet all user needs but also the efforts to develop a fishing port should be able to provide satisfaction to its users. Putra et al. (2016) also argues that the assessment of fishery port management performance problems can be carried out based on the port function approach. Port performance can be used to determine the level of port service to port users. It depends on the service time of the ship at the fishing port. If a port could provide good service, it can be concluded that the port has a

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high port performance level.

Measuring the performance of a fishing port is closely related to user satisfaction. The level of user satisfaction is important in the development of a responsive service provision system in a fishing port. If port users are satisfied, it means that the service of managing the port is already efficient and effectively implemented. Some related studies have been conducted in several fishing ports espeacially in Indonesia district, such as Pekalongan fishing port (Nasir et al.,2012; Imanda et al. 2016), Pelabuhanratu fishing port (Sari et al., 2020) , Kejawanan Cirebon fishing port (Bayyinah et al., 2016), Nizam Zachman fishing port (Guswanto et al. 2018), and Eretan fishing port (Nurhayati et al.,2018).

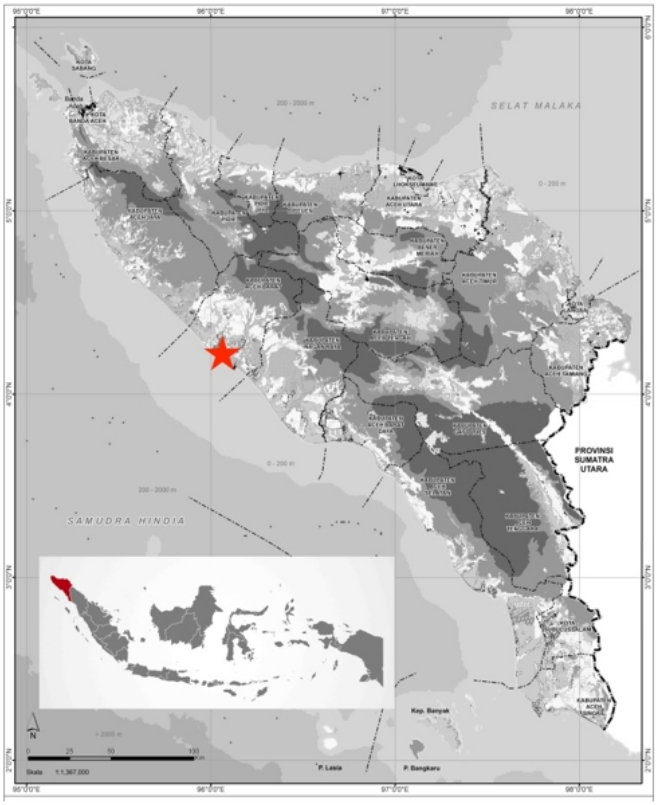
The satisfaction level felt by users will have an impact on the users about repeat usage to fishing ports as service providers and as a guideline for the success of fishery port development as well. Nowadays, no study has conducted at Ujong Baroh fishing port to investigate the level of user satisfaction with the management. Therefore, it is necessary to conduct an assessment of the level of satisfaction of port users. So it can be used as a basis to improve management performance in improving the optimal functionality of the Ujong Baroh Fishing port in the future. As stated by (Mwasenga (2012), the data can be used for quick and accurate decision making in determining the strategy to improve quality of its services as a guideline for the success of the development of fishing ports. Currently, Ujong Baroh fishing port has several basic facilities and infrastructure to support its activities including clean water installation facilities, fuel installation facilities, ice installation facilities, fish auction place, dock and dump pool. However, not all of these facilities operate optimally. Besides, based on the writer experiences, the silmilar researches about the fishing port in Europe countries are still not reported, therefore this research can be used for the premilary references and guede to conduce the similir reaseacr in the future. this study aims to determine the level of manager performance and the level of user satisfaction with the management of Ujong Baroh fishing port.

2. Case studies.

The research method was conducted descriptively to collect data at the fishing port. The research location is showed in figure 1. The research map location is shoed in figure 1. Data was collected by direct interview using a questionnaire. The participants consist of port managers and port users that chosen as a sample by using purposive sampling. The port management participants consisted of port officers including 1 person harbormaster, 4 people harness sections, 1 head fishery division, and 1 person infrastructure and facilities. While the port user participants consist of business operators which consisted of 60 fishermen (skipper handler and the crew/ABK), “fish business owner” is about 10 people, 20 fish traders (big traders (collectors) 5 people, small traders (retailers)) 10 people, mobile fish traders (Muge) 5 traders. Data collected as primary data through questionnaires and interviews with research parameters, and data collected as secondary data through supporting primary data / reports of relevant agencies.

The broadness conducted about a fishing port section. criteria used for performance assessment and customer satisfaction levels was set according to government regulation No. 45 of 2009. Includes special functions of fishing port as mooring and anchoring services for a fishing boat, loading and unloading services, and general functions of fishing port as fishing boat and marketing of catches activities. The parameters set include performance and satisfaction with the provision and quality of service from the supply facility, landing and dismantling facility, and marketing facilities. The assessment of these parameters is based on the answers from respondents. The assessment uses 5 levels (Likert). The analysis used in determining the level of manager performance and user satisfaction includes calculating the achievement matrix of performance indicators and customer / user satisfaction matrix.

Figure 1: Research Location.



Source: Author.

a. Matrix of Achievement of Performance Indicators.

The scores of the respondents’ answers that have been collected are then calculated on average. A comparison of the average value with the total target score then converted to percentage, Tabel 1 show the percentage of Ujong Baroh performance (Ngamel et al., 2013).

b. User Satisfaction Level Matrix.

The user satisfaction matrix can be calculated using the Customer Satisfaction Index (CSI) analysis method. The CSI measurement method includes the following steps (Bhattarai and Kharka, 2016):

Table 1: Performance level criteria for fishing port management.

Performance Level Index Value	Criteria
0% ≤ Y < 20%	The fishing port's performance is very poor
20% ≤ Y < 40%	Poor fishing port's performance
40% ≤ Y < 60%	The fishing port's performance is quite good
60% ≤ Y < 80%	Good fishing port's performance
80% ≤ Y ≤ 100%	The fishing port's performance is very good

Source: Authors.

1. Calculating Weighting Factor (WF), obtained from changing the average value of importance to a percentage of the total average importance of all attributes tested and multiplied by 100%, so that the overall WF value is 100%;
2. Calculating Weighted Scored (WS), which is the multiplication value between the average value of the performance level of each attribute with the WF of each attribute;
3. Calculating Weighted Total (WT), is sums the WS of all service attributes, and;
4. Calculate the Satisfaction Index (SI), is WT divided by (L) the maximum scale used, then multiplied by 100%.

The overall level of satisfaction can be seen from the following criteria (Table 2):

Table 2: Criteria for the level of customer and employee satisfaction.

Satisfaction Level Index Value	Criteria
0.00 - 0.34	Very dissatisfied (service really does not meet the needs of customers and employees);
0.35 - 0.50	Not satisfied (service does not meet the needs of customers and employees)
0.51 - 0.65	Quite satisfied (sufficient service to meet the needs of customers and employees);
0.66 - 0.80	Satisfied (the service meets the needs of customers and employees)
0.81 - 1.00	Very satisfied (the service really meets the needs of customers and employees)

Source: Authors.

3. Results and Discussion.

The weight percentage of each parameter shows us how much the influences of the parameter on the performance index assessment of the Ujong Baroh fishing port. In determining the weight value of each parameter, the level of importance score refers to the fishing port situation in the location. The differences in characteristics location and technical infrastructure in each fishing port may affect the success rate of each parameter facility to be measured differently with the appropriate weights. The weight of each parameter is multiplied by the average score at every parameter (Table 3).

Table 3: Achievement Matrix of Management Performance Level at the Fishing Port Ujong Baroh.

Nº	Parameter	Weight per parameter (%)	Average	Score
1	Clean water installation facilities	10	2.86	0.29
2	Fuel Installation facilities	15	1.00	0.15
3	Ice Installation facilities	15	1.00	0.15
4	Dock	25	1.71	0.43
5	Dump pool	20	1.43	0.29
6	Fish Auction Place	15	2.00	0.30
Total Score		100%		1.60
Percentage of Index Performance = (Total Score / 5) * 100%				0.32 (32%)
Criteria: Poor fishing port performance				

Source: Authors.

The obtained data showed that the result of a total performance score is about 1.60 to produce a percentage of the performance index is about 32% (Table 3). The data Indicates that the performance of the Ujong Baroh fishing port is categorized as poor. This result is based on the observations and the data obtained. Meanwhile, the assessment of the satisfaction level of fishing port users is carried out using determined parameters Customer Satisfaction Index (CSI) analysis by comparing the scores of importance scores with performance satisfaction scores in a parameter (Table 4).

Table 4: Achievement Matrix of User Satisfaction Level at the Fishing Port Ujong Baroh.

Nº	Parameter	RSP	WF (%)	SSR	WS (%)	WS
1	Clean water installation facilities	4.50	16.55	2.89	47.81	0.48
2	Fuel Installation Facility	4.52	16.63	3.01	50.08	0.50
3	Ice Installation Facility	4.50	16.55	4.19	69.33	0.69
4	Dock	4.66	17.12	2.49	42.62	0.43
5	Dump pool	4.49	16.51	2.74	45.31	0.45
6	TPI (Fish Auction Place)	4.52	16.63	2.42	40.29	0.40
Total		27.19	100.00	17.74	295.44	2.95
Total Weight (WT)						2.95
Satisfaction Index (SI) (%) (2.954420 / 5) * 100%						0.59 (59 %)
Criteria: moderately satisfied						

Source: Authors.

The data above showed that the score of the Ujong Baroh fishing port user satisfaction index is 0.59 (59 %) (Table 4). This score between 0.51 - 0.65 (51% - 65%) which indicates that the level of port user satisfaction is in the moderately satisfied category. The result value of the satisfaction index in the category reflects the performance of the Ujong Baroh fishing port. It is still not maximal based on the expectations of the users.

The data of the analysis parameters of the clean water installation facility showed that the fulfillment of the clean water installation facility was still poor which is average performance score is about 2.86. While the fishing port users hope a high expectation on the availability and the service with the average score is about 4.50. This expectation was not covered by the fishing port, so there is only about 2.89 score was obtained with a different point about -1.61. It means that the satisfaction felt by users was still far from the expectations that they want.

The data of the analysis of the fuel installation facilities indicate that the condition of the facility is good but it is not supported by a good performance by the management of the fishing port with an average score is about1.00. The score indicates the performance of the fishing port facility is poor. Meanwhile, the fishing port users hope that the average expectation score is about 4.52. This expectation cannot be covered by the Ujong Baroh fishing port and it can be seen from the result of the satisfaction score is about 3.01 with a different point is about 1.51. It means that the satisfaction felt by users is still under the expectations that they want. This value shows that performance is still needed to be improved in order to meet the expectations of users.

It is similar to the fuel installation facility, the analysis shows that the performance of the ice installation facility is still poor with average performance score is 1.00. Meanwhile, the user's expectation score is about 4.50. It indicates that the availability of ice facilities is also very important for Ujong Baroh fishing port users. Acquiring satisfaction score about 4.19 indicates the satisfaction of the users is satisfied. Moreover, there is still a different point about -0.31 between the expectations and the satisfaction of users, so that the perceived satisfaction is still under the expectations that they want.

Dock facility is the most important facility that provides the greatest influence on the assessment of the performance index of the Ujong Baroh fishing port, so the user's perception is about 4.66. Dataset of the analysis of the performance of the management of the dock facilities are poor with an average score is about 1.71. Along with the poor performance value they got, this expectation cannot be fulfilled, so there is only an average satisfaction score obtained about 2.49. It indicates that the fishing port users are still not satisfied with the presence and service facilities provided by the management. The difference point is about -2.17 and it proofs the unsuccessful achievement of the performance of Ujong Baroh fishing port to fulfill the expectations of its users compared to other facilities.

The user hopes high expectation on docking ship installation facility is about 4.66 average score. It indicates the importance of the presence of the facility as a reflection of the implementation of the function of the fishing port along with the dock facilities. In addition, the poor performance obtained with the average score is about 2.00. The expectations of its users cannot be met, because the average score of satisfaction obtained is about 2.74. The score indicates that the user is still not satisfied with the performance, and it can be seen from the different point is about-1.75.

Data of the analysis showed that the result of the fishing port performance score is about 2.00. It indicates the performance of the manager of the Ujong Baroh fishing port is not good. The perception/expectation score is about 4.50, the score showed that TPI facilities in the market catches are very important. The satisfaction score is only 2.42, and it is the lowest satisfaction score compared to other facilities with -2.08 points. Fishermen are not satisfied with the performance of the management of this fishing port facility which is still far from their expectations.

The service and facilities provider are a must that should be endeavored exist at a fishing port. The presence of good provision and service facilities will greatly determine the success of the development and construction of fishing ports. (Guswanto (2012) states that individual assessments of fishery port service parameters reflect the extent to which the performance of fishing port managers has been carried out to fulfill their functions in satisfying their users. In general, if the value of the level of conformity of each parameter is far below 100%, it means that the provision of facilities and service quality at Ujong Baroh fishing port is still not satisfying users optimally. The absence of management arrangements that are carried out directly from the fishing port manager has affected to the existing facilities and unable to fulfill their function to provide services at fishing ports. Nowadays, the availability of these facilities work as requirements complements in fulfilling its status as a type-D fishing port.

The clean water provider at Ujong Baroh fishing port is equipped by 1 unit of water tank with of 1,500-2,000 liters capacity and it is still used in good way. The growth number of fishing vessels and the current clean water suppler are not able to handle all of the operations at the fishing port so that the fulfillment of the performance of this facility is poor. This condition is contrast to the results of a research conducted by Alfiana et al. (2018) states that the management performance of Brondong fishing port on clean water facilities can be said good because it helps to meet the operational needs of the fishing.

The inability of the performance of the manager to fulfill the expectations its users impact on less satisfied users to Ujong Baroh fishing port with the service and its facilities provider. Similar issue occurs in PPS Kutaraja as stated in the research showed a low level of satisfaction because amount of water supply does not match the operational needs of the fishing (Rizwan et al. 2020) ; (Rizwan et al. 2023) .

The fuel installation facility at Ujong Baroh fishing port is in good condition but is not supported by good performance by the PPI management. The only performance service provided by the fishing port manager is at the fuel distribution permit. It is because the management of the fuel agency is indirect or managed by a private party, called PT. Pertamina. Similar conditions were also found in the research results of Nurhayati et

al. (2018) , the fuel provider at PPP Eretan Indramayu it is managed by a private party whose its existence has been able to help the needs of fishermen. Without interference of the Ujong Baroh fishing port management, PT. Pertamina as the owner and manager of the Padang Seurahet facility has been able to provide fuel facilities service that make fishermen satisfied. Even so, the performance that has been carried out is still not able to meet the desired expectations by its users. A similar condition was obtained by Nurhayatin et al. (2016), overall fishermen are quite satisfied with the performance of the diesel supply service at Prigi fishing port.

It is much different with the fuel installation facilities, the management of ice installation facilities is managed by the private sector. The only service provided by the fishing port manager is the ice distribution permit. So that the performance that is carried out is bad. The expectations of the users cannot be fulfilled with small and unfavorable conditions of the ice factory. It shows the inability of the ice installation facility as if it is not too important to the port users so that users are satisfied with the service of this facility provider. The inability of Ujong Baroh's management performance was able to covered the existence of an ice factory outside PPI which became a substitute for the main provider of ice supply at Ujong Baroh fishing port. The existence of an ice factory along the shipping track makes it easier for fishermen to carry out supplies compared to the fishing port ice factory which is located far out there. The discussion about the ice supplies from outside location is also already discussed by Diniah et al. (2012). The research stated that the fulfillment of the ice needs at Karangatu fishing port also comes from outside the port through private companies or ice depots from Baralaja.

Ujong Baroh fishing port has one pier facilities which are also used for mooring and anchoring activities and filling out supplies at sea, so that the dock is unable to accommodate the existing ships. As a facility that has the highest parameter weight compared to other facilities. It means that the facilities in the fishing port have the greatest influences on the Ujong Baroh fishing port performance index assessment. Nowdays, the management of this facility is in the bad category. The narrow dock size only about 72 x 4 m and affects to the level of user satisfaction. This condition creates a queue of ships to unload the catch, so that make the users are not satisfied. A similar condition also occurred in Tanjungsari fishing port (Ardandi et al*.,* 2013). It showed that the length of the Tanjungsari fishing port is still not optimal based on the large number of fishing fleets continues to increase, so that all ships are being able to unload, load supplies, and moor at the dock.

The Ujong Baroh docking pool facility could we say in good condition. The facility condition was formed naturally by utilizing the Krueng Cangkoi river flow. It means that there was no human's construction at this facility. The port pool always has a problem occurs in fishing port and it is in line with a case research conducted by Nugroho et al. (2012). It stated that the port pool facilities in Dadap fishing port are still not optimal on its function due to the large amount of sedimentation. The number of ships that berth irregularly causes the tract of the ship not run optimally due to the absence of berthing operational services carried out by fishing port, so that its performance is at poor category. This condition causes the user's expectations cannot be fulfilled. Port users are still not satisfied with the performance that has been carried out. This situation is contrast to the results of the study conducted by Nurhayatin et al. (2019). In this study the fishermen claim they are satisfied with the service of anchoring pond facilities at Eretan Indramayu fishing port due to have a large area for mooring and landing their catch.

The availability of the Fish Auction Place facility as a place for fish auction is still considered not optimal. It can be seen from the poor performance of the Ujong Baroh fishing port management. In fact, users consider the existence of this facility very important for marketing the catch. User satisfaction scores for this facility are the lowest satisfaction scores compared to other facilities. Fishermen are not satisfied with the capacity and condition of the Fish Auction Place facilities owned by Ujong Baroh fishing port. Meanwhile, when it comes the function, fishermen are satisfied with the use of the Fish Auction Place building as a marketing place by Fish Agent as in Sungai Remas fishing port, who not carry out an auction process as the main function of Fish Auction Place (Primusdhika et al., 2016).

Based on observations, almost the facilities are functioned directly without any regulation from the Ujong Baroh fishing port manager. This is caused by several internal factors that become obstacles in the management of activities and regulations. Lack of human resource availability and limited fishing port development management budget are the main factors inhibiting performance that have caused the current management to remain dormant since the transition period (West Aceh Regent Decree Number 061.2/701/2018 on April 19 2018). Other factors are caused by the lack of coordination between stakeholders in fishing port, the absence of Ujong Baroh optimization regulations, and the lack of understanding of fishermen about the functionalities of each fishing port facility which also causes fishing port operational activities does not controlled properly.

As a result, existing facilities cannot fulfill their function to provide services at fishing ports based on the user expectations. The impact is not all users have the same opportunity to take advantage of the existing facilities. Thus, the level of satisfaction obtained by users is still in the standard range or tends to spread. Some users are satisfied with the equipments and service of existing facilities.

Conclusions.

Based on the results of the analysis about the achievement matrix of the Ujong Baroh fishing port performance level indicators in carrying out the supply function and service quality of the 6 facilities studies; clean water installation facilities, fuel installations, ice installations, docks, anchoring ponds, and TPI, the value was 32% indicate that the PPI Ujong Baroh's performance is categorized poor. Ujong Baroh fishing port performance is also measured from the fishing port user satisfaction index using the *Customer Satisfication Index* (CSI). It received a satisfaction index about 59.09% which indicates that Ujong

Baroh fishing port users are quite satisfied. Overall this value is in the standard range, where fishermen are neither satisfied nor satisfied. This value reflects that Ujong Baroh fishing port still needs to improve its performance based on the user expectations. The government should to fix the infrastructures to support fishing activities in the fishing port Ujong Baroh. Besides, the socialization about the maximize and maintenance the fishing port facilities in Ujong Barong fishing Port are needed.

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