Analysis of Service Levels of The Tidore-Sofifi Speedboat Mode During the COVID-19 Virus Pandemic

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Abstract - Speed boat is one of transportation mode to service the Tidore-Sofifi route picking the customers up from Islands Tidore to Halmahera island vice versa clear. Many customers doing a traveling use this mode demands attention to the comfort and safety aspects of the mode user, especially at the Covid-19 pandemic moment. Condition on the ground indicates speedboat mode operating throughout the day, in any the weather picks up people and objects. The purpose of this research analyzes speed boat service level according to rating mode user transportation at the Covid-19 pandemic moment by using analyze method Importance Performance Analysis (IPA). To reach the purpose of this research is done some steps specifically: counting a decrease in the average number of customers per day, map the relationship between the importance and performance of each service indicator according to customer assessment. From the result of the research obtained that during the pandemic Covid-19 number of customers in daily average is carried decreased dramatically to 10,10% numbers of the total customer usually carried up in normal time. The level service from the speedboat transportation Tidore-Sofifi by the IPA method obtained variable has high the interests/expectations however the reality/performance is not good enough, is the availability variable of the first aid kit and availability Hand sanitizer/ACT. While the variable is considered less important by customers, but its performance is good, that is lighting in the night, availability life jacket, and availability rope thrower.

Keywords: Speedboat, Mode of Transportation, Covid-19, Importance Performance Analysis

1. Introduction
Development and competition between transportation modes are very tight now. Therefore, all transportation modes attempt to offer fast and comfortable traveling services. To be able to attract the interests of inter-island crossing customers, the mode of transportation has to be able to keep the extension through fulling to need the customers and can maintain of satisfaction of customers. Reduction of satisfaction level the customers could result in a decrease in confidence, it could even cause switch the customers to another transportation mode. For this problem not to happen, modes of transportation need to do analyze the factors the determinant of satisfaction level passe customers.
Any functions of transportation, among others 1) to easy human activity in everyday life. 2) to wage the current of the stuff or the current of human. 3) to bolster up the development in an area. And 4) to support the growth of the economy with freight services [1]-[3].

North Moluccas is an island province with a large part of its territory consisting of islands. The city of Islands Tidore become one of the city which is taken place in North Moluccas province are composed of 12 islands and 4 islands which are inhabited viz Islands Tidore, Halmahera island, (Oba land), Mare island and Maitara island. With downtown locating in Islands Tidore while the capital of North Moluccas locating on Sofifi North Oba district still a part of the administration of the city of Islands Tidore. It has resulted in an increased civic movement that implicates people’s growing need for better tools and infrastructure for ocean transport [4].

Recently, all countries in the world face Covid-19 pandemic health emergency condition including our country Indonesia until it is very influential in life-changing of society in every day including the service of transportation mode especially on North Moluccas due to the strict application of health protocols for all mode transportation to avoid chance transmission to society. The ocean crossing becomes one of connecting between Tidore to Sofifi City. High increase crossover the transport pushes the government to more pay attention to about comfort and safety specifically better facilities development to customers’ safety or speedboat’s safety. When the bad service for user customers the speedboat transport in the port Sarimalaha then the customers will feel insecure and uncomfortable. Looking at the conditions above, then there needs evaluation of the performance from transit cross-service between islands so that later equilibrium between demands with the service level of speedboat especially in the Covid-19 pandemic conditions.

2. Methods
This research is implemented in Islands Tidore city, to find out the condition of the speedboat transport service Tidore-Sofifi route during Covid-19 pandemic and mode user perception using a questionnaire spreading to speedboat user. This research involves 36 respondents by considering the time, location, age, gender, profession, income, and origin of respondents. Implemented for two days with different retrieval times.

2.1. Materials and Equipment
Materials and equipment using in this research is questionnaire divided into two questions groups which concern the respondent characteristics of transport mode user and customers’ perception of transport of mode. The question used know customers’ perception arranged based on previous research which is one of type and is validated until the query is decent to use in the questionnaire.

2.2. Data Collection Techniques
The data collection is carried out as follows:
1. Taking data by going down directly to the Sarimalaha speedboat port of Tidore Islands City.
2. The distribution of the questionnaire is done directly to the customers to fill in the questions in the questionnaire in accordance with the classification.
3. Secondary data were obtained from relevant government agencies namely BPS Kota Islands Tidore and the Islands Tidore City Transportation Agency.

2.3. Data Analysis Techniques
Using quadrant analysis to map the reality of performance and expectation of interest from speedboat service users to some indicators of service quality influencing customer satisfaction. Based on the results of the assessment of the level of importance and performance evaluation then will be resulted in a calculation becoming suitability level between interest level and implementation level. Suitability level is comparison results performance score and importance score speedboat transit user.
In this total value of the X2 performance appraisal score and total score of importance/expectation of indicator Y2 that diagram can be seen in figure 1.

The definition of each quadrant as follows [5]:

1. Quadrant I (Main priority), this quadrant is an indicator that very influence level of service user satisfaction to a performance whose conditions are unsatisfactory and need priority improvement.
2. Quadrant II (Maintain performance), this quadrant shows an indicator that influences the level of satisfaction of service users to the performance of the conditions having fulfilled expectations and needs to be maintained.
3. Quadrant III (Low priority), this quadrant shows an indicator that is not important to fulfill the level of service user satisfaction to performance, whose implementation considered not essential.
4. Quadrant IV (Exaggerated), this quadrant shows an indicator that it is not important to fulfill the level of service user satisfaction to a performance whose implementation the user receives more services than what is expected so that it is not a priority of improvement (excessive).

Figure 1. Cartesian diagram of analysis of interests and performance

2.4. Data analysis

IPA method is used to map the connection between the importance of performance from each service attribute according to the Tidore-Sofifi speedboat user assessment, T-test and Analysis of Variance (ANOVA). To know the perception average/assessment from customer speedboat Tidore-Sofifi based on characteristics from user transport. To know is the correlation between each of the characteristics of the Tidore-Sofifi speedboat passenger.

3. Results and analysis

At the time of the Covid-19 pandemic occur that resulted from all society trips. It is restricted mainly to the people who have activity using mode transportation speedboat route Tidore-Sofifi, this problem has caused a very drastic reduction in the number of passengers to numbers 10,10% from the average of a daily passenger at the normal time like shown at table 1. This illustrates that many society do not travel at the time of a pandemic and choosing to do activities in their house based on government appeals. Therefore, it more affects on level service which is done by transportation provider because transportation providers because they have to cover the difference in costs incurred and income obtained, Besides that, demanded to keep giving a good service to passengers.
Table 1 Tidore-Sofifi Speed Boat Passenger Daily Average Data

| No  | Description                              | Normal Time | Pandemic Time | Reduction (%) |
|-----|------------------------------------------|-------------|---------------|---------------|
| 1.  | Number of Fleets in operation Per Day    | 11 Units    | 4 Units       | 36.36         |
| 2.  | Number of Trips Per Day                  | 33 Times    | 4 Times       | 12.12         |
| 3.  | Number of Passengers transported Per Day  | 396 People  | 40 People     | 10.10         |

Data source: Department of Transportation Tidore Islands City (UPT Port Sarimalaha)

Respondent Characteristics

1. Gender
Based on research result is implemented known that most of the speedboat respondent male 63.89% and female 36.11%.

2. Age
Based on this research is known that age group from the respondent who travels using speedboat aged 25-35 years by 47.22%, aged 36-45 years by 22.22%, aged 46-55 years by 22.22%, and with greater age is 56 years by 8.33%.

3. Education
Based on the result of this research is done known that most of the speedboat last educated speedboat respondents who are Bachelor degree/Master degree/Postgraduate by 58.33%, then Senior high school by 25.00%, Diploma by 23.81%, Junior High School by 2.78% and Primary School by 0%.

4. Profession
Based on this research is known this profession from respondents using a speedboat working as Civil servant/Army/Police by 47.22%, Student by 5.56%, Private/ Indonesian: state-owned corporation/ Indonesian: Regionally-Owned Enterprises by 27.78%, Entrepreneur/ Businessman 11.11% and others 8.33%.

5. Income
Based on this research is done monthly income of respondents using the speedboat < Rp.1.000.000 are there by 13.89% Income Rp.1.000.000-Rp.2.000.000 by 13.89%, Rp. 3.000.000-Rp.4.000.000 by 36.11%, with income >Rp.4.000.000 by 22.22% and others by 0%.

6. Based on the Respondent's Travel Purpose
Based on this research is known that the purpose from passenger respondent of the speedboat with official travel trip by 77.78%, with the business trip by 2.78%, recreation/holiday by 0% with meeting family by 11.11% and others purpose by 8.33%.

Analisis Importance Performance Analysis
To analyze the real data and the level expectations of transportation services use the method Importance Performance Analysis that is described in the Cartesian diagram as shown in Figure 2 below.
Figure 2. Relationship between reality and expectations of IPA method

There is an X-axis and a Y-axis. The X-axis is a level performance (reality), and the Y-axis is level importance (expectations) that are grouped that become four-quadrant parts. There is the variable shown in the Cartesian diagram that is 1. Cleanliness, 2. Information services and rates, 3. Comfortable seating on the speedboat, 4. The attitude of service providers in serving passengers, 5. Firm action for those who violate, 6. Area of air circulation in the speedboat, 7. Storage of stuff, 8. Lighting at night, 9. Availability of compass / GPS navigation tools, 10. Availability of life jackets, 11. Availability of fire extinguishers/apar foam, 12. Availability of radio equipment, 13. Availability of rope throwers, 14. Availability of distress signals, 15. Availability of first aid kit, 16. Availability of PPE (masks), and 17. Availability of Hand Sanitizer / ACT.

4. Conclusions
Based on the analysis of the service level of the speedboat mode from Tidore-Sofifi can be concluded as follows:

- During the Covid-19 pandemic is the average in everyday total being transport decreased dramatically to 10.10% of the total passengers who are usually carried in normal time.
- Most of the transport users are men (63.89%) aged at most between 25-35 years (47.22%), Mostly educated Bachelor degree/Master degree/Postgraduate (58.33%), Most of them who have profession as Civil servant/Army/Police (47.22%), The majority earn between Rp 3,000,000-Rp.4,000,000 (36.11%), and mostly due to business trips or work (77.78%).
- The variable has higher the importance/expectations nonetheless at the performance/reality that is not good enough, is the availability of first aid kit (P15), and availability of Hand sanitizer / ACT (P17).
• The variable is considered less important by the passenger, but the performance is more good, is Lighting in the night (P8), Availability of life jackets(10), and Availability of rope throwers (P13).
• The variable has higher the importance/expectations and at the performance/reality that is good enough Cleanliness (P1), Information services and rates (P2), Comfortable seating on the speedboat (P3), The attitude of service providers in serving passengers (P4), Firm action for those who violate (P5), Area of air circulation in the speedboat (P6).
• The variable is considered less important by the passenger, and the performance is less good, is Storage of stuff (P7), Availability of compass / GPS navigation tools (P9), Availability of fire extinguishers/aper foam (P11), Availability of radio equipment (P12) Availability of distress signals (P14), and Availability of PPE (masks), (P16).

References

[1] Abdul Gaus, Chaerul Anwar, Sutrisno Putra P. 2017. Aplikasi Metode Importance Performance Analysis dalam Analisa Tingkat Pelayanan Mode Speedboat. Ternate: Fakultas Teknik Universitas Khairun, Ternate.
[2] Dedi Wiriyawan, Adi Aspina Nur, Pengaruh Efektifitas Pelayanan Terhadap Kepuasan Konsumen Pada Pelabuhan Speedboat Kayan II Tanjung Selor, Fakultas Ekonomi Universitas Kaltara.
[3] Lumban Gaol, Sabrina. 2008. Evaluasi Pola Pergerakan Orang Dan Barang Dengan Moda Transportasi Air: Studi Kasus: dari dan ke kota Balige (Skripsi). Sumatera Utara: Teknik Sipil Universitas Sumatera Utara.
[4] Mardiani, Cahirul Anwar, Mufti Amir Sultan, 2013. Model Probabilitas Pemilihan Moda Kapal Ferry Dan Speed Boat Rute Ternate-Tidore, Sipilsains, Vol.03 No. 06. Pp:33-40.
[5] Melfa Yola, Duwi Budianto, Analis Kepuasan Konsumen Terhadap Kualitas Pelayanan dan Harga Produk Pada Supermarket Dengan Menggunakan Metode Importance Performance Analys (IPA), Program Studi Teknik Industri, Universitas Islam Negeri Sultan Syarif Kasim Riau.