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# MANAGEMENT OF SEA TRANSPORTATION IN WAKATOBI REGENCY

***Syukriyanto, Usman Rianse, Samdin & Adris Ade Putra***

*Research Scholar, Halu Oleo University, Jl. Prof. Abd. Rauf Tarimana, Kambu, Kendari, Sulawesi Tenggara, Indonesia*

## *ABSTRACT*

*This study aims to analyze the application of management function of sea transportation at Wakatobi regency, calculating the movement of sea transportation and the transport fleets need for sea transportation and design a strategy for managing sea transportation in Wakatobi Regency. The type of research used in this paper is a mixed methods approach (mixed).*

*The results of the study concluded that a) the implementation of management functions sea transportation in Wakatobi Regency has been going well, b) the number of inter-island sea transport passengers in Wakatobi Regency and out of Wakatobi has increased from year to year so that additional sea transport fleets and departure frequencies are needed in anticipating increasingly significant demand for sea transportation and c) strategies that must be carried out by relevant agencies in managing sea transportation nodes in Wakatobi Regency are, encouraging the licensing regulations that are more effective and efficient as a legal basis to attract investors who are already willing to invest their capital in the development of sea transportation in Wakatobi Regency, encouraging an increase in the number of sea transportation fleets to anticipate the number of sea transportation passengers, making a healthy business climate for potential investors so that they are able to attract interest in investing their capital in the sea transportation sector in Wakatobi Regency, coordination and synergy between stakeholders is needed in developing the sea transportation sector in Wakatobi Regency to be more optimal and improving the quality of transportation human resources supporting the development of the sea transportation sector.*

***KEYWORDS**: Management, Sea Transportation, SWOT Analysis*

***Article History***

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## INTRODUCTION

The Indonesian government carries out development in order to encourage progress and have an impact on the community. The success of development is strongly influenced by infrastructure. The availability of infrastructure will encourage development and facilitating the mobility of people and services (Canning and Pedroni 2008; Calderón, Moral-Benito, and Servén 2014: Sawada: 2015). One of the infrastructure that plays a role in accelerating development is transportation infrastructure (Ngamvichaikit: 2017; Afli and Mei: 2017).

The territorial character of Republic of Indonesia, which is an archipelagic country, needs the role of sea transportation to support economic and regional growth. Wakatobi Regency is one of the regencies in Southeast Sulawesi

Province which is dominated by waters and consists of various islands that requiring reliable sea transportation to improve accessibility and regional connectivity.

Improving the transportation system with various problems needs to collaborate with many stakeholders because transportation problems do not stand alone and the effect influence the community (Sarjana et al: 2020). Management and development of the transportation system needs to be done professionally so that it will encourage more optimal government services. The development of sea transportation is also very influential on the economic growth of a country and region (Fratila et al: 2021; Jović, M. et al. 2019; Mukolwe and Wanynoike: 2015; Nistro et al: 2014; Park et al: 2019). The government service including transportation sector development plan towards an optimal direction requires a strategy that takes into account internal and external environmental factors (Karyono and Agustina: 2019; Oetomo: 2012). The strategy for developing sea transportation using the SWOT approach are the development of human resources, improvement of sea transportation infrastructure and collaboration between agencies or stakeholders (Humang et al:2021; Mafrudoh, et al: 2017; Mapanggara et al: 2015).

Based on the description of the background of the problem, the study is needed that focuses on the management of sea transportation in Wakatobi Regency. The formulation of the problem in this study is to look at the application of sea transportation management function in Wakatobi Regency, calculating the movement of sea transportation and the fleet need for sea transportation and design a development strategy in the management of sea transportation in Wakatobi Regency.

## LITERATURE REVIEW

Daft (2010) defines management is the attainment of organizational goals in an effective and efficient manner through planning, organizing, leading, and controlling organizational resources

Warpani (2002) states transportation is the activity of moving people and goods from one place (origin) to another (destination) by using means (vehicles). Transportation from an area is a system of movement of people and goods between a zone of origin and a zone of destination within the area concerned.

Jinca (2009) states that the benefits of transportation for the community are:

- Opening the isolation of regions and regions.
- Increasing activities and support the running of the regional economy.
- Facilitating access to technology and use of social facilities
- Increasing mobility and social contact between residents.
- The Law of the Republic of Indonesia Number 17 of 2008 concerning Shipping explains several roles and functions of a port were:
- The nodes in the transport network correspond to a hierarchy.
- Gateway to economic activity.
- Place of activity switching modes of transportation.
- Supporting industrial and/or trade activities.

- Place of distribution, production and consolidation of cargo or goods.
- Realizing insight into the archipelago and state sovereignty.

Forecasting the number of planning years must be first predicted the number of passenger transport using the following formula

$$\mathbf{Pn = P(1 + r)^n}$$

Where:

Pn = Total population /goods in year n;

Po = Total population/goods in the base year;

r = The rate population / goods growth;

n =Number of intervals.

Several strategies in the development of sea transportation according to the Regulation of the Minister of Transportation KM No. 15 of 2010 concerning the Blueprint for Intermodal/Multimodal Transportation of 2010-2030, namely increasing the accessibility of passenger and goods transportation in remote and congested areas and increasing the efficiency and effectiveness of sea transportation services that carried out in an integrated manner and through the arrangement of the route network.

According to Kotler (2000) SWOT analysis is a technique specifically designed to help identify strategies that must be carried out by companies or agencies. SWOT analysis covers the company's overall internal and external environment. After we know the strengths, weaknesses, opportunities and challenges, a plan or strategy will be drawn up which will be translated into operational plans in achieving the desired goals.

## THE RESEARCH METHODS

### Type of Research

The type of research used in this paper is a mixed methods approach (mixed). The reason of mixed methods approach using are to better understanding the research problem by converging quantitative data in the form of numbers and qualitative data in the form of descriptive details as stated by Creswell (2010) that the mixed methods strategy is a procedure in which data quantitative and qualitative were combined to obtain a comprehensive analysis.

## RESEARCH LOCATION AND TIME

The location of this research is at the Southeast Sulawesi Provincial Transportation Service Office and at the ports in Wakatobi Regency, namely the Wanci Ferry Port, Numana Port and the People's Wanci Port.

## DISCUSSION

### The Implementation Sea Transportation Management Function in Wakatobi Regency

Based on the results of interviews and field observations, several things were found in the implementation sea transportation management function in Wakatobi Regency were the application of the planning, organizing, implementing and monitoring functions.

Implementation of functions and management in public organizations is important to achieve the desired goals as stated by Daft (2010) which states that management is a process in planning, organizing, coordinating and controlling all resources in achieving goals or objectives effectively and efficiently.

### Projection of Passenger Number and Fleet Requirement at Outside and Inter Island Of Wakatobi Regency

### Outside Wakatobi Regency

Sea transportation outside Wakatobi Regency consists of ship routes Kendari-Wanci, Kamaru-Wanci and Wadeburi-Wanci which each year shows increased significant number of passengers as described in the following table

**Table 1: The Number of Sea Transport Passengers Outside of Wakatobi Regency**

| Number | Years | Kendari-Wanci route | Kamaru-Wanci route | Wadeburi-Wanci route |
|---|---|---|---|---|
| 1 | 2017 | 16,928 | 17,784 | 16,740 |
| 2 | 2018 | 17,435 | 18,318 | 17,242 |
| 3 | 2019 | 18,132 | 19,233 | 18,104 |
| 4 | 2020 | 17.226 | 18,464 | 17,380 |

Source: The Transportation Department of Wakatobi Regency (2021)

From the number of sea transportation passengers, projections of the number of sea transportation passengers are made for 2025, 2035 and 2045 as material for the policy of developing sea transportation in Wakatobi Regency which will be explained in the following table.

**Table 2: Prediction of the Number of Sea Transport Passengers Outside of Wakatobi Regency**

| Number | Years | Kendari-Wanci route | Kamaru-Wanci route | Wadeburi-Wanci route |
|---|---|---|---|---|
| 1 | 2025 | 26,224 | 27,919 | 26,280 |
| 2 | 2035 | 60,780 | 63,832 | 60,085 |
| 3 | 2045 | 140,867 | 145,943 | 137,375 |

Source: The result of data processing (2021)

Based on the results in table 2 which shows the development of the number of passengers on the three routes outside of Wakatobi Regency, it requires a simulation of the need for the number of sea transportation fleets on the three routes which are described in the following table.

**Table 3: Prediction of the Fleet Requirement of Outside Wakatobi Regency**

| Route | Years | Passenger prediction | Load Factor | Fleet requirement (n) | Fleet frequency |
|---|---|---|---|---|---|
| Kendari-Wanci | 2025 | 26,224 | 0,16 | 1 | 1 |
| | 2035 | 60,780 | 0,36 | 1 | 1 |
| | 2045 | 140,867 | 0,84 | 1 | 1 |
| Kamaru-Wanci | 2025 | 27,919 | 0,35 | 1 | 1 |
| | 2035 | 63,832 | 0,79 | 1 | 1 |
| | 2045 | 145,943 | 1,82 | 1 | 2 |
| Wadeburi-Wanci | 2025 | 26,280 | 0,33 | 1 | 1 |
| | 2035 | 60,085 | 0,75 | 1 | 1 |
| | 2045 | 137,375 | 1,71 | 1 | 2 |

Source: The result of data processing (2021)

Based on the results in table 3 above, it shows the need to increase the frequency of fleet departures for the Kamaru-Wanci route and the Wadeburi-Wanci route in 2045 from 1 to 2 considering the demands for sea crossing transportation based on the simulation results.

## Inter-Island of Wakatobi Regency

Sea transportation inter- islands in Wakatobi Regency consists of fleet at Wanci Port, Kaledupa Port, Tomia Port and Binongko Port which every year have increasing a significant number of passengers as described in the following table.

**Table 4: The Number of Passenger at Inter-Island Fleet in Wakatobi Regency**

| Number | Year | Port of Wanci | Port of Kaledupa | Port of Tomia | Port of Binongko |
|---|---|---|---|---|---|
| 1 | 2017 | 5,490 | 4,297 | 3,166 | 2,300 |
| 2 | 2018 | 6,118 | 4,512 | 3,419 | 2,484 |
| 3 | 2019 | 6,485 | 4,873 | 3,761 | 2,732 |
| 4 | 2020 | 6,226 | 4,580 | 3,498 | 2,541 |

Source: The Transportation Department of Wakatobi Regency (2021)

From the number of sea transportation passengers, projections of the number of sea transportation passengers are made for 2025, 2035 and 2045 as material for the policy of developing sea transportation in Wakatobi Regency which will be explained in the following table.

**Table 5: The prediction of passenger number at inter island sea transportationin Wakatobi regency**

| Number | Year | Port of Wanci | Port of Kaledupa | Port of Tomia | Port of Binongko |
|---|---|---|---|---|---|
| 1 | 2025 | 9,397 | 6,973 | 5,349 | 3,886 |
| 2 | 2035 | 21,410 | 16,162 | 12,509 | 9,087 |
| 3 | 2045 | 48,777 | 37,457 | 29.253 | 21,251 |

Source: The result of data processing (2021)

Based on the results in table 5 above which shows the development of the number of passengers on inter-island sea transportation in regency of Wakatobi requires a simulation of the need for the number of inter-island sea transportation fleets in Wakatobi regency are described in the following table

**Table 6: The Prediction Of Sea Transportation Fleet Requirement In Inter Island Of Wakatoby Regency**

| Port | Year | Passenger estimation | Load Factor | The fleet need (n) | The fleet frequency |
|---|---|---|---|---|---|
| Wanci | 2025 | 9,397 | 0,56 | 1 | 1 |
| | 2035 | 21,410 | 1,28 | 1 | 1 |
| | 2045 | 48,777 | 2,91 | 2 | 3 |
| Kaledupa | 2025 | 6,973 | 0,42 | 1 | 1 |
| | 2035 | 16,162 | 0,96 | 1 | 1 |
| | 2045 | 37,457 | 2,24 | 1 | 3 |
| Tomia | 2025 | 5,349 | 0,32 | 1 | 1 |
| | 2035 | 12,509 | 0,75 | 1 | 1 |
| | 2045 | 29,253 | 1,75 | 1 | 2 |
| Binongko | 2025 | 3,886 | 0,23 | 1 | 1 |
| | 2035 | 9,087 | 0,54 | 1 | 1 |
| | 2045 | 21,251 | 1,27 | 1 | 2 |

Source: The result of data processing (2021)

Based on the results in table 6 above, it shows the need to add a 2 fleet serving route at Wanci Port for 2045 and the frequency of fleet departures for routes that pass through Tomia Port and Binongko Port for 2045 from 1 to 2 departure of ship departure and 3 departure frequencies at Wanci and Kaledupa Port in 2045 considering the demand for sea transportation based on the simulation results.

## The Management Strategy of Sea Transportation in Wakatobi Regency

### 1. The Internal Factors

### (a) Strength

Strength is a condition that becomes the advantage of an agency or organization. The results of the study in the form of interviews conducted related to aspects of strength in the analysis of sea transportation node management in Wakatobi Regency are described in the following table.

**Table 7: The Recapitulation of Strength Aspect in Management Analysis in Sea Transportation Node in Wakatobi Regency**

| Number | Items of Strength | The Technique of Data Collection |
|---|---|---|
| 1 | Sea transportation is the backbone of Wakatobi regency transportation | Interview and field observations |
| 2 | Wakatobi regency strategic position in the shipping lane | Interview |
| 3 | The Political Will | Interview and document study |
| 4 | Support from House of Representatives | Interview |

Source: The result of data processing (2021)

### Weakness

Weakness is a condition that becomes a weakness or deficiency of an agency or organization. The results of the study in the form of interviews conducted related to aspects of weakness in the analysis of sea transportation node management in Wakatobi Regency are described in the following table.

**Table 8: The Recapitulation of Weakness Aspect in Management Analysis in Sea Transportation Node in Wakatobi Regency**

| Number | Items of Weakness | The technique of data collection |
|---|---|---|
| 1 | Lack of transportation facilities and infrastructure | Interview and field observations |
| 2 | Support from another mode transportation is not optimal | Interview and field observations |
| 3 | Human resource quality is not sufficient | Interview |

Source: The result of data processing (2021)

## 2. The External Factors

### (a) Opportunity

Based on the results of research conducted found several factors from opportunities aspects in managing sea transportation node in Wakatobi Regency which will be described in the following table.

**Table 9: The Recapitulation of Opportunities Aspect in Management Analysis in Sea Transportation Node in Wakatobi Regency**

| Number | Items of opportunity | The technique of data collection |
|---|---|---|
| 1 | The need of sea transportation fleets | Interview |
| 2 | The huge number of regional income from sea transportation sector | Interview |
| 3 | The huge desire of investors in the development of sea transportation services in Wakatobi regency | Interview |

Source: The result of data processing (2021)

### Threats

Based on the results of research conducted found several factors that are aspects of threats in managing sea transportation nodes in Wakatobi Regency which will be described in the following table.

**Tabel 10: The Recapitulation of Threat Aspect in Management Analysis in Sea Transportation Node in Wakatobi Regency**

| Number | Items of Threats | The technique of data collection |
|---|---|---|
| 1 | Lack of budget supporting | Interview |
| 2 | Lack of synchrony of stakeholders in the implementation of sea transportation | Interview |
| 3 | Unbalanced the number of passenger and sea transport fleet | Interview and field observation |

Source: The result of data processing (2021)

**Table 11: SWOT Matrix on Management of Node Sea Transportation in Wakatobi Regency**

| **IFAS**<br>**Internal Strategy Analysis Factor**<br>**EFAS**<br>**External Strategy Analysis Factor** | **STRENGTH(S)**<br>1. Sea transportation is the backbone of Wakatobi regency transportation.<br>2. Wakatobi regency strategic position in the shipping lane<br>3. The political will.<br>4. Support from House of Representatives. | **WEAKNESS (W)**<br>1. Lack of transportation facilities and infrastructure.<br>2. Support from another mode transportation is not optimal.<br>3. Human resource quality is not sufficient. |
|---|---|---|
| **Opportunities (O)**<br>1. The need of sea transportation fleets.<br>2. The huge number of regional income from sea transportation sector.<br>3. The huge desire of investors in the development of sea transportation services in Wakatobi regency. | **SO Strategy**<br>1. Encouraging the licensing regulations that are more effective and efficient as a legal basis to attract investors who are already willing to invest their capital in the development of sea transportation in Wakatobi Regency.<br>2. Encouraging an increase in the number of sea transportation fleets to anticipate the number of sea transportation passengers. | **WO Strategy**<br>1. Making a healthy business climate for potential investors so that they are able to attract interest in investing their capital in the sea transportation sector in Wakatobi Regency. |
| **THREATH (T)**<br>1. Lack of budget supporting<br>2. Lack of synchrony of stakeholders in the implementation of sea transportation<br>3. Unbalanced the number of passenger and sea transport fleet | **ST Strategy**<br>1. Coordination and synergy between stakeholders is needed in developing the sea transportation sector in Wakatobi Regency to be more optimal. | **WT Strategy**<br>1. Improving the quality of transportation human resources supporting the development of the sea transportation sector. |

Source: The result of data processing (2021)

## CONCLUSION

Based on the results of research and discussion, it can be concluded that a) the implementation of management functions of sea transportation in Wakatobi Regency has been going well, b) the number of passengers on inter-island sea transportation in Wakatobi Regency and out of Wakatobi Regency has increased from year to year so it is needed addition of sea transportation fleets and frequency of sea transportation departures in anticipating increasingly significant demand for sea transportation and c) strategies that must be carried out by relevant agencies in managing sea transportation nodes in Wakatobi Regency are, encouraging the licensing regulations that are more effective and efficient as a legal basis to attract investors who are already willing to invest their capital in the development of sea transportation in Wakatobi Regency, encouraging an increase in the number of sea transportation fleets to anticipate the number of sea transportation passengers, making a healthy business climate for potential investors so that they are able to attract interest in investing their capital in the sea transportation sector in Wakatobi Regency, coordination and synergy between stakeholders is needed in developing the sea transportation sector in Wakatobi Regency to be more optimal and improving the quality of transportation human resources supporting the development of the sea transportation sector.

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