

# Sea Transportation Business Management Patterns in South Lembeh District, Bitung City, North Sulawesi

Victoria EN Manoppo<sup>1</sup>, Srie Jean Sondakh<sup>2</sup>, Alfret Luasunaung<sup>3</sup>

<sup>1</sup> Fisheries Agribusiness, Faculty of Fisheries and Marine Sciences, Sam Ratulangi University Manado 95115, North Sulawesi Indonesia.

E-mail: [victoria.nicoline@unsrat.ac.id](mailto:victoria.nicoline@unsrat.ac.id)

<sup>2</sup> Fisheries Agribusiness, Faculty of Fisheries and Marine Sciences, Sam Ratulangi University Manado 95115, North Sulawesi Indonesia.

E-mail: [Srisondakh12@yahoo.com](mailto:Srisondakh12@yahoo.com)

<sup>3</sup> Utilization of Fishery Water Resources, Faculty of Fisheries and Marine Sciences, Sam Ratulangi University Manado 95115, North Sulawesi, Indonesia.

E-mail: a. [Luasunaung@unsrat.ac.id](mailto:Luasunaung@unsrat.ac.id)

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**Abstract**— Lembeh Island is part of Bitung City and has 2 sub-districts, namely South Lembeh District and North Lembeh District, where the economic activity of the community is very dependent on sea transportation. Papusungan Village is located in South Lembeh District. Sea transportation activities or activities are interesting because this business is a business that is mostly carried out by the people of Papusungan Village. The purpose of this research is to find out and explain how Management Pattern of Sea Transportation Business in Papusungan Village, South Lembeh District, Bitung City. The method used is the survey method. Data collection is primary data and secondary data. The sampling method is using the purposive sampling method to get a sample, namely respondents who work in the field of sea transportation in Papusungan Village. The analysis used in this research is SWOT analysis (Strength, Weakness, Opportunity, Threats) which is then explained through quantitative and qualitative descriptive analysis. The results show the management pattern of the sea transportation business, namely: 1) Improving skills in the taxi boat business because there is no rejection from the community, 2) Increasing the standard of boat comfort and safety 3 ) Development and improvement of facilities and infrastructure for sea transportation business, 4 ) Cooperation between the government and taxi boat businesses, 5 ) There is a need for boat loading standards based on boat capacity to be measurable, 6) Policies from the government to further improve regulations for passenger safety for better transportation.

**Keywords**— management pattern, Sea Transportation Business, SWOT Analysis, Papusungan

## I. INTRODUCTION

### 1.1 Background

The development of coastal and marine areas is an issue and discussion that must that is carried out now, before (during the new order), the development of coastal and marine areas did not receive sufficient attention due to the interaction of political decisions based solely on agrarian interests. Finally, it is realized that coastal and

marine assets and resources have too great a chance to be abandoned.

Lembeh Island is an island in the administrative area of Bitung City in North Sulawesi Province, Indonesia. Lembeh Island is currently administratively divided into two sub-districts, namely North Lembeh District and South Lembeh District. This island is famous for being a dive site for foreign tourists in North Sulawesi besides

Bunaken. The number of residents in Papusungan Village, South Lembah District, Bitung City in July 2019 was recorded at 3,129 people and those who work as fishermen were recorded as 380 fishermen consisting of line fishing rods 140 people, ring trawl fishermen 120 people, sea transportation 110 people and 10 light boats. people. (Papusungan Village Data).

income from sea transportation can meet the needs of fishermen and their families. Based on observations in the field and the results of the team's discussion, the problem they face is that the operational expenses of this business and their family expenses are insufficient or unbalanced, and there are even fishermen who often look for work. additional to meet the shortfall in light boat income.

## II. LITERATURE REVIEW

### 2.1 Definition of Management

Management comes from the word manage, in the Big Indonesian Dictionary means to lead, control, regulate, and strive to be better, more advanced, and responsible for certain jobs. Management is a process that helps formulate policies and objectives providing oversight on all matters involved in the implementation and achievement of goals. other organizations to achieve predetermined organizational goals (Peter Salim and Yenny Salim, 2002).

### 2.2 Sea Transportation

Transportation can be defined as a process of moving people or goods from one place to another by using a land vehicle, sea vehicle, or air vehicle, both public and private, using a machine or not using a machine. From its understanding, it is clear that transportation plays an important role in the dynamics of people's lives and even the dynamics of the state and nation, both in daily life, cultural life, political life, and especially socio-economic life. The progress of a country or region depends on the transportation development of that country or region. The development of transportation depends on the development of trade and business activities or activities of a country, region, or local community. Sea transportation is included in the type of water transportation as part of transportation in general. (Statistics of Sea and Air Transportation of North Sulawesi Province, 2018)

According to Tamin in Prasetyo et al, 2015, transportation is a system consisting of service system facilities and infrastructure that allows movement throughout the region so that the mobility of the population can be accommodated, the movement is possible for goods with access to all areas, transportation is a tool used by

people to move from one place to another by using vehicles driven by humans or machines. This tool called transportation is made to make it easier for humans in daily activities that require moving places.

### 2.3 SWOT-Based Management Analysis

Pandelaki (2012) wrote that the strategy method that is often used is SWOT ( *Strength, Opportunities, Weakness, Threats*) analysis, where analysis can be considered the most basic method, useful for viewing a topic or problem from four different sides. The results of the analysis are usually directions or recommendations to maintain strengths and take advantage of existing opportunities while reducing weaknesses and avoiding threats. Meanwhile, David (2007) in Pandelaki (2012) states that SWOT analysis is an important matching tool that helps managers develop four types of strategies, namely: SO (strengths-opportunities), WO (weaknesses-opportunities), ST (strengths-threats), and WT (weaknesses-opportunities). threat).

## III. RESEARCH METHODS

### 3.1 Research Method

The method used in this research is a survey. This research was conducted in Papusungan Village, South Lembah District, Bitung City, North Sulawesi Province by using structured questions, namely observations and questionnaires.

### 3.2 Sampling Method

The sampling method used the *purposive sampling method*. Furthermore, the sample in this study was determined before going down to the location where the sample was those who had businesses in the field of sea transportation in Papusungan Village, sea transportation users, and officials at the Bitung City Transportation Service office.

### 3.4 Data Analysis Method

The analytical method used is SWOT analysis to determine the objectives to be achieved are:

1. The Internal Factor Evaluation (IFE) Matrix is a strategy formulation tool used to summarize and evaluate the main strengths and weaknesses in the functional areas of a business, and also provides a basis for identifying and evaluating the relationship between these areas (David, 2006 in Ningsih K and Hamamah, 2014).
2. External Factor Evaluation (EFE) Matrix is used to determine the company's external factors related to opportunities and threats that are considered important. External data is collected to

analyze matters concerning economic, social, cultural, demographic, environmental, political, government, legal, technology, and competition issues (David, 2006 in Ningsih K and Hamamah, 2014).

#### IV. RESULTS AND DISCUSSION

##### 4.1 South Lembeh District

South Lembeh District is a division of South Bitung, which was inaugurated on October 10, 2007, based on Regional Regulation No. 3 of 2007, concerning the change in the names of sub-districts and sub-districts in Bitung City with the following territorial boundaries:

- Northside is bordered by North Lembeh
- In the east, it is bordered by the Maluku Sea
- To the south, it is bordered by the Maluku Sea
- To the west, it is bordered by the Lembeh Strait

The geographical condition of the South Lembeh Sub-district, which is located in an archipelago, so that the dominant people work as fishermen, farmers, craftsmen, and a small number of civil servants.

##### 4.1.1 History of Papusungan Village

Papusungan Village is one of the villages in the South Lembeh District. The initial name of the Papusungan Village is in Papatungan or In Sanger language, which means a place to cook rice, it is said to be a place to cook rice because in 1500 the Siau Kingdom of Engkeng Unaung and warlords were invited by Minahasa officials to defend the Minahasa Land which at that time was captured by Mangindano. Engkeng Unaung and the warlords who were there at that time were about to go to Minahasa, so they stopped at Papusungan, to cook and make food supplies in Papusungan to prepare for the war, they went straight to Minahasa, and on their way to Minahasa, they anchored on the beach kora-kora to lean the boat.

##### 4.1.2 General Condition of Papusungan Village

Papusungan Village, Lembeh Setalan District is included in the administrative area of Bitung City, North Sulawesi Province with an area of 21,256 hectares. Lembeh Island is currently administratively divided into two sub-districts, namely:

1. South Lembeh District
2. Member District

Papusungan is one of the villages in South Lembeh District, Bitung City, North Sulawesi Indonesia, Papusungan Village is one of the 7 villages consisting of 6 neighborhoods. This research was carried out in

Papusungan Village and respondents who were taken for taxi boat businesses predominantly live in neighborhood 6.

This village is located opposite the pier where ships from Bitung, Kema, Amurang, etc. come to Lembeh Island, which is active in fishery, culinary tourism, and other businesses.

##### 4.2 Sea Transportation Respondent Profile

The people of Papusungan Village who have a sea transportation business mostly have permanent jobs. Seeing the high-income potential in operating a sea transportation business in Papusungan Village, the community makes a side job and additional income.

##### 4.2.1 Education Level

Education is one of the important social aspects to support humans in developing their businesses and making it easier for someone to be more advanced in business skills. Education affects a person's ability to absorb new technology. The education level of sea transportation respondents can be seen in the following table:

Table 1. Number of Respondents on Sea Transportation Based on Education

No	Education	Amount	Percentage 100%
1	Not in school	2	10
2	Elementary	5	25
3	Junior High School	4	20
4	High School	9	45
	<b>Amount</b>	<b>20</b>	<b>100</b>

Source: Processed primary data, 2022

The table above shows that the education level of most respondents is 9 (45%), and the lowest surely those who do not attend school, is 2 (10%).

##### 4.2.3 Age

Age is also one of the factors in carrying out sea transportation business activities. Due to the increasing age, the strength in carrying out sea transportation business operations will decrease. The comparison of age levels between marine transportation groups and independent sea transportation can be seen in table 2.

Table 1. Number of Respondents on Sea Transportation by Age

No	Age	Amount	Percentage (%)
1	30-50	8	40
2	55-65	12	60
Amount		20	100

Source: Processed primary data, 2022

In table 2 it can be seen that the most aged 50-65 are 12 people and those aged 30-46 are 8 people, this means that the average age of respondents who operate taxi boats is productive.

#### 4.2.3 Family Dependents

Family dependents are the number of family members consisting of wives and children, as well as other people who participate in the family or live in one house and eat together who are the responsibility of the head of the family. The number of family dependents can be seen in table 3.

Table 2. Number of dependents of the respondent's family

No	Dependent Family (Person)	Number of Family Dependents (Persons)	Percentage %
1	1-2 People	7	35
2	3-4 People	13	65
Amount		20	100

Source: Processed Primary Data, 2022

In table 3, it can be seen that the most dependents are 3-4 families, which are 13 people or 65% and the least 1-2 are 7 people or 33%. The more family responsibilities that are borne, the more expenses the respondent spends every day.

#### 4.3 Sea Transportation

Sea transportation provides a very large contribution to the national and regional economy as mandated in Law no. 17 of 2008 has become a very strategic matter for national insight and has become a vital tool that supports the goals of national unity and integrity. It should also be noted that the contribution of sea transportation is becoming increasingly important because the value of the costs incurred is the smallest when compared to the costs of land and air transportation (Jusna, 2016).

Sea transportation is one of the transportation sub-sectors that is also an important part of supporting the activities of the archipelagic community. This is also one of the targets in the development of the sea transportation business in Papusungan Village.

##### 4.3.1 Business Profile

In the past, there were 2 parts of the landing site or mooring for sea transportation, the first in Papusungan Kecil and the second in Papusungan Besar. As time goes by, sea transportation experiences a lot of competition because no one regulates the way of sea transportation so conflicts occur between the owners of the sea transportation. The main factor that makes the moorings for sea transportation in Papusungan Kecil less operational is the roads that have become good so that passengers choose Papusungan Besar as the main mooring or the main port for taxi boats.

The sea transportation business was carried out by the people of Papusungan Village, the Papusungan Village community took the initiative to create a group with this business. The business group that they built as a taxi boat business consists of 2 groups, namely; group 1 and group 2, in this way they make their own rules regarding the route between Lembeh-Bitung which has been scheduled according to their respective groups. The formation of the group itself is carried out so that the taxi boat operation route can run regularly in 1 week each person gets an allotment of 6 trips in 3 days for 1 week running.

##### 4.3.2 Passenger Fares

Fares per passenger using sea transportation in Indonesia Papusungan Village, South Lembeh District, City Bitung can be seen in Table 4.

Table 4. Fares per passenger in one trip Papusungan District

No	Taxi Boat Fare	Price (Rp)
1.	Mature	Rp. 5,000
2.	School children	Rp. 2,000
3.	Motor vehicle	Rp. 10,000

Source: Primary data analysis, 2022

Taxi boat fares from Bitung – Lembeh (Papusungan) and Lembeh (Papusungan) – Bitung costs the same 5,000 for adults and 2,000 fares for school children and motorized vehicles are charged 10,000. Taxi boats in the Papusungan village can also be rented at a rate of Rp. 1.000.000 Round trip to 1 tourist area, namely Pasir Panjang.

As seen in Kevin Rompis' research, Journal of Fisheries Agribusiness Acculturation Vol. 7 No. 1 the

passenger fare at the Tondano River estuary in Manado City is divided into 2: 1) Fares and 2) Day Rentals for 3 islands (Bunaken, Nain, Lihaga) at a rate of 3,000,000-4,000,000, while in the author's research in the Papusungan sub-district only destination 1 tourist spot that is long sand.

#### 4.4 SWOT Analysis of Sea Transportation Business

The sea transportation business in Papusungan Village is very good to run with high income. However, many things affect the running of the sea transportation business, such as lack of capital and narrow boat moorings making it difficult for them to land or unload passengers

from the mooring. Based on this incident, the sea transportation business can be analyzed through SWOT analysis.

##### 4.4.1 Evaluation of Internal Factors

The IFE matrix is used to determine how much influence the internal factors of the taxi boat business have. The weight value in this matrix is the result of the calculation of the number of each factor divided by the total value of the total value on the strength and weakness factors, and the score value is the result of the sum of the multiplication of weights and ratings on each factor. More detailed calculations can be seen in table 5.

Table 5. Calculation of IFE Matrix Ratings and Ratings

No	Strength (S)	Amount	Rating	Weight %	Score (Weight x Rating)
1	Sea experience	50	4	0.14	0.56
2	Productive age factor	47	4	0.12	0.48
3	High income	52	3	0.14	0.42
4	Potential passengers	51	4	0.14	0.56
5	Respondent skills	56	4	0.15	0.60
	<b>Total</b>	<b>256</b>	<b>19</b>	<b>0.69</b> _	<b>2.62</b>
No	Weakness (W)	Amount	Rating	Weight %	Score (Weight x Rating)
1	Narrowboat mooring	20	2	0.06	0.12
2	Users are dominated by local people	16	2	0.06	0.12
3	Low technology	17	2	0.06	0.12
4	Lack of capital	28	1	0.07	0.07
5	Level of education	23	1	0.06	0.06
	<b>Total</b>	<b>104</b>	<b>8</b>	<b>0.31</b>	<b>0.49</b>
	<b>Total</b>	<b>360</b>	<b>27</b>	<b>1.00</b> _	<b>3.11</b>

Source: Processed primary data, 2022

Based on the results of the calculations in the IFE matrix table, it is found that the total score is 2.51 and the total value of the weighted value reaches 1.00. From the total score, it can be concluded that the sea transportation business has a strong internal position because it is above the value of 2.50. This shows that the sea transportation business on the strength factor can minimize existing weaknesses. The main strength of the sea transportation business is the respondent's skill in driving a taxi boat, with a score of 0.52. While the main weakness of the sea

transportation business is the lack of capital with a score of 0.07.

##### 4.4.2 Evaluation of External Factors

The IFE matrix is used to determine how much influence the internal factors of the taxi boat business have. The weight value in this matrix is the result of the calculation of the number of each factor divided by the total value of the total value on the strength and weakness factors, and the score value is the result of the sum of the



multiplication of weights and ratings on each factor. More detailed calculations can be seen in table 6.

Table 6. Calculation of EFE Matrix Ratings and Ratings

No	Opportunity (O)	Amount	Rating	Weight %	Score (WeightxRating)
1	Technological development	51	3	0.13	0.39
2	Landing area expansion	60	4	0.16	0.64
3	The demand for sea transportation is high	51	3	0.13	0.39
4	No competitors	52	3	0.14	0.43
5	No community rejection	56	3	0.15	0.45
	<b>Total</b>	<b>271</b>	<b>16</b>	<b>0.71</b>	<b>2.29</b>
No	Threat (T)	Amount	Rating	Weight %	Score (WeightxRating)
1	Bitung-Lembeh bridge construction	19	1	0.06	0.06
2	Port development issues for ferries	16	1	0.04	0.04
3	Overload	28	2	0.08	0.08
4	Service quality	20	1	0.05	0.05
5	There is no serious government intervention yet	21	1	0.06	0.06
	<b>Total</b>	<b>106</b>	<b>6</b>	<b>0.29</b>	<b>0.29</b>
	<b>Total</b>	<b>377</b>	<b>22</b>	<b>1.00</b>	<b>2.58</b>

Source: Processed primary data, 2022

Based on the results of the calculations in table 6 of the EFE matrix, it was found that the total score was 2.58 and the total weight reached 1.00. This shows that the sea transportation business is already relatively strong in terms of opportunities that can minimize existing threats. The sea transportation business opportunity in the EFE matrix is the expansion of the landing site, with a score of 0.64. Meanwhile, the main threat to the sea transportation business is excessive cargo, with a score of 0.08.

In total external factors (opportunities and threats) with a value of 2.58 which can be interpreted that the

external environmental conditions are greater than the internal total which scores 2.51 this can be interpreted that external factors can provide a positive response.

#### 4.4.3 Formulation of Business Strategy

The formulation of a sea transportation business strategy in Pausungan Village, South Lembeh District is carried out using a SWOT analysis based on strategic environmental factors. The results of generating the SWOT matrix can be seen in table 7.

Table 7. Management Pattern of Sea Transportation Business in Papusungan Village, South Lembeh District.

<p><b>IFE</b></p> <p><b>EFE</b></p>	<p>Strength (S):</p> <ol style="list-style-type: none"> <li>1. Sea experience</li> <li>2. Productive age factor</li> <li>3. High income</li> <li>4. Passengers who potential</li> <li>5. Skills in operating a boat</li> </ol>	<p>Weaknesses (W):</p> <ol style="list-style-type: none"> <li>1. Narrow boat mooring</li> <li>2. Users are dominated by local people</li> <li>3. Low technology</li> <li>4. Lack of capital</li> <li>5. Level of education</li> </ol>
<p>Opportunity (O):</p> <ol style="list-style-type: none"> <li>1. Strength increase ( PK m engine boat)</li> <li>2. Landing Area Expansion</li> <li>3. The demand for sea transportation is high</li> <li>4. No competitors</li> <li>5. No community rejection</li> </ol>	<p>Strategy (SO):</p> <ul style="list-style-type: none"> <li>• Improving the quality of human resources in maximizing the skills of the taxi boat business (S1, S2, S3, S6, O1, O4)</li> <li>• Improved standard of boat comfort and safety (S5, S3, O2, O1, O5)</li> </ul>	<p>Strategy (WO):</p> <ul style="list-style-type: none"> <li>• Development and improvement of sea transportation business facilities and infrastructure (W1, W5, O2, O5)</li> </ul>
<p>Threats (T):</p> <ol style="list-style-type: none"> <li>1. Bitung-Lembeh bridge construction</li> <li>2. Port development issues for ferries</li> <li>3. Overload</li> <li>4. Poor service quality</li> <li>5. No government intervention</li> </ol>	<p>Strategy (ST):</p> <ul style="list-style-type: none"> <li>• Intergovernmental cooperation with taxi boat businesses (S3, S4, S5, S6, T4, T5)</li> <li>• There is a need for a standard boat load based on the capacity of the boat to be measured (S4, S5, T3, T4, T5)</li> </ul>	<p>Strategy (WT):</p> <ul style="list-style-type: none"> <li>• Policy from the government to further improve regulations for passenger safety for better transportation business. (W5, W2, W6, T3, T4, T5)</li> </ul>

Based on the results of the SWOT analysis, an alternative to the development of a sea transportation business in the Papusungan sub-district, south lembeh sub-district, Bitung city has been formulated, namely:

**SO. Development**

1. Improving the quality of human resources in maximizing the skills of the taxi boat business.
 

Increasing human resources is one of the strategies undertaken to form quality human beings who have the skills and ability to work in operating taxi boats. Improving human resources can be done through direct guidance and counseling to taxi boat business actors in Papusungan Village, South Lembeh District.
2. Improved standard of boat comfort and safety
 

Increasing the standard of boat comfort is one of the strategies undertaken for the development of the sea transportation business. This is done so that passengers are not overcrowded and the load is not excessive so that when operating the taxi boat it becomes comfortable while traveling.

**WO. Development**

- Development and improvement of marine transportation business facilities and infrastructure

Business support infrastructure is one of the important things in carrying out business/business activities. The availability of these infrastructure facilities greatly affects the development of the taxi boat business itself. The facilities that need to be developed are in the form of increasing PK engines and infrastructure in the form of expanding boat moorings, landings for passengers and narrow motorized vehicles so that they are not free to unload passenger luggage this needs to be developed so that the community and business owners can freely operate.

In a study written by Siska Salatan in the Journal of the Masters of Aquatic Sciences Study Program, it discusses the SWOT analysis on the WO Strategy which says that the construction/operation of fishery business

facilities in the sub-district of Lintasabu, such as the absence of TPI and the ice factory has not functioned. In this case, the discussion that is not much different from the existing research in the Papusungan sub-district in the WO strategy can be said for the development and improvement of marine transportation business facilities and infrastructure in the form of expanding boat moorings and increasing PK engines.

### ST. Development

1. Cooperation between governments and taxi boat businesses

The cooperation between the government and the taxi boat business actors is very important in running the business in Papusungana Village so that they can make regulations for the operation of taxi boats so that there is no excessive load that will threaten the safety of the passengers. Due to the absence of rejection from the local community, there is a very good opportunity for the taxi boat business, so in this case, it is good for the government to provide good cooperation for taxi boat business actors so that the operation runs according to the rules that have been agreed with the government.

2. There is a need for a standard boat load based on the capacity of the boat to be measurable

This strategy is very important in the development of the taxi boat business in Papusungan Village because with the standards that have been determined directly by the government, taxi boat users and the most dominant, namely the local community themselves feel safe when in the boat because of the boat capacity. and the standard load on the boat can be overcome by legal regulations. This is done because the regulations made now are only in the form of Meeting Minutes which can be seen in Appendix 6, so almost all taxi boats are overloaded not according to the capacity of the boat they have.

### WT. Development

- Policy from the government to further improve regulations for passenger safety for better transportation business.

This is necessary so that the quality of service in this taxi boat business can provide comfort and safety for passengers. In the taxi boat business in the Papusungan Village, there has been no intervention from the government so

that all rules ranging from passenger fares to the maximum cargo are regulated by the taxi boat business actors so that many violate the mutually agreed rules ranging from excessive loads that can cause pose a danger to the passengers until the passenger fare is beyond the predetermined price. This policy from the government has a positive impact on both the taxi boat business actors and the passengers who use sea transportation facilities in Papusungan Village.

### V. CONCLUSION

It can be concluded that based on the SWOT analysis, there are 4 alternative sea transportation business development strategies that can be carried out for taxi boat business actors, namely:

1. Improving the quality of human resources in maximizing the skills of the taxi boat business. Increase the size of the boat so that it is not overcrowded and the load is not excessive
2. Development and improvement of sea transportation business facilities and infrastructure.
3. Cooperation between government and taxi boat businesses. there needs to be a standard boat load based on the capacity of the boat to be measured
4. Policy from the government to further improve regulations for passenger safety for better transportation business.

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