

Impact of The Establishment of Shipping Lanes in Bakauheni Seawaters on the Economy in Lampung

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Abstract: The purpose of this study is to determine and analyze: (i). The requirements that must be met for the Bakauheni Port if it is going to get a shipping lane determination policy; (ii). The conceptual framework of government policy in determining shipping lanes in Bakauheni according to stakeholders; and (iii). How stakeholders expect government policies to determine shipping lanes at Bakauheni Port and its economic impact.

The method used in this study is a mixed method consisting of quantitative and qualitative approaches at 103 determinate shipping lanes comply ports in Indonesia. The analysis technique in the qualitative method is carried out by Focus Group Discussions which is then analyzed using Nvivo.

The conclusion of the study shows that (i) According to the stakeholders, the government needs to resolve the obstacles to implementing the determination of shipping lanes in Indonesia, such as: the determinate of shipping lanes compliance for the Port of Comply, which has not implemented the rules of the game as set out, unsynergy between stakeholders, the harbormaster has not played an active role, weaknesses in human resources in quantity and qualifications, complicated bureaucracy, the lack of the latest technology; (ii). The conceptual framework of the government's policy in implementing the determinate of shipping lanes at Indonesian ports according to the stakeholders, consisting of the current conditions, and the impacts given; and (iii). In general, there are similarities between the opinions of stakeholders and the government regarding the government policy in the implementation of the determinate of shipping lanes at Indonesian Ports.

The recommendations given regarding this research are: (i) The benefits of implementing the determinate of shipping lanes, should be measured as a whole by considering the multiplier impact through other sectors because the results show that the implementation of the determinate of shipping lanes encourages all sectors to contribute nationally; (ii) The government needs to solve the problems of implementing the determinate of shipping lanes, including compliance for the ports that have complied through the enforcement of the determinate of shipping lanes rules in the field with full commitment from all levels or stakeholders through synergy, the active role of porters in the field by building synergy, mitigating risk of failure to enforce determinate of shipping lanes rules, resolve HR quality problems through education and training as well as socialization, simplifying complicated bureaucracy by re-evaluating existing SOP, as well as the use of the latest technology such as surveillance cameras and digital information systems.

Keywords: Determination of shipping lanes, Safety Maritime, Lampung Income, NVivo analysis

Background

Shipping lanes are water spaces used for ship navigation activities from the port of origin to the port of destination. Shipping lanes are one of the vital infrastructures of the sea transportation system, the development and management of which must be carried out with consideration of shipping safety and security aspects. The implementation of shipping lanes is the responsibility of the government, the implementation of which must be carried out as well as possible in order to guarantee the smoothness and effectiveness of port operations as a whole in driving the economy of the distribution system of goods and people by sea.

By referring to Law Number 17 of 2008 concerning Shipping, and Government Regulation Number 5 of 2010 concerning Navigation, policies in managing shipping lanes at sea must be adjusted to Indonesian Maritime Policy so that they can synergistically encourage the realization of Indonesia as the world's maritime axis. It is hoped that the Indonesian seas will be a safe and secure place for sailing ships. So that it can help Indonesia become a promising and trustworthy shipping route. Shipping lanes are waters that, in terms of depth, width, and free from other shipping obstacles, are considered safe and secure for maritime transport vessels to navigate. Therefore, the government organizes shipping routes which include planning, construction, operation, maintenance, and supervision. It is necessary to determine shipping lane corridors, route systems, traffic procedures, and ship anchoring areas in organizing shipping lanes according to their interests. For this reason, it is necessary to create Technical Instructions for Determining Shipping Lanes at Sea as a guide for the relevant parties, especially for officers of the Navigation District marine observation group in implementing the implementation of shipping lanes at sea and equalizing positive perceptions in the implementation of determining shipping lanes.

Indonesia is located in a strategic location on world trade routes considering that 90% of international trade is by sea, where 40% of it passes through Indonesian waters. Indonesia has the 4th largest coastline in the world after Canada, USA, and Russia. Indonesia's position is between the 2 continents of Asia and Australia with territorial waters stretching between the Indian Ocean and the Pacific Ocean and has 3 Indonesian Archipelagic Sea Lanes (ALKI) which are international shipping lanes. Indonesia has a territorial area in the Malacca Strait which is the 3rd busiest strait in the world, is passed by ships carrying \pm 40% of world traded goods, and is the main route for \pm 80% of oil and LNG transport ships from the Middle East to China. , Japan, Korea, and parts of America.

Indonesia is very bound by conventions and is obliged to ratify the established conventions. Safety Of Life At Sea (SOLAS) 1974 contains ship safety contained in various regulations that have been agreed upon during the conference. In addition, it also establishes the procedure for accepting a change (amendment) or what is called The Tacit Acceptance. This procedure is designed to provide assurance that changes to the Convention can be made and accepted within a certain period of time. Indonesia, which is also a member country of the International Maritime Organization (IMO), also applies what is stated in SOLAS 1974 to its domestic and international shipping. The Indonesian government has ratified SOLAS 1974 as stated in Presidential Decree No. 65 of 1980. The Government of Indonesia has also ratified the 1988 SOLAS Protocol as outlined in the RI Presidential Regulation No. 57 of 2017 which generally regulates the harmonization of the validity period of certificates and the implementation of inspections consisting of initial inspections, annual inspections, intermediate inspections, and renewal inspections.

In 2022, 25 (twenty-five) Shipping Channels have been stipulated in the form of Ministerial Decrees, while 15 (fifteen) Shipping Channels are in the process of being determined and 10 (ten) Shipping Channels are in the survey and assessment process. In accordance with the direction of the Minister of Transportation to continue to encourage the acceleration of the process of Determining Shipping Routes Entering Ports throughout Indonesia. According to the data, collaboration and synergy are needed so that the acceleration of determining shipping routes can be carried out well. For this reason, good coordination between the Directorate of Navigation and the Regional Government, and related agencies is very necessary.

Based on the survey results, currently, Bakauheni Harbor has a channel length of approximately 10 km with a width of 500 m, with a depth varying from 4 to 10 meters LWS. However, the depth of the water around the pier for ships to dock varies so of course it is necessary to determine a channel so that ships can dock safely. Currently, he continued, only domestic ships docked to load and unload goods at Bakauheni Port. Therefore, it is hoped that the development of supporting infrastructure for Bakauheni Port can be realized so that large ships can enter and dock at the port. In this way, this area can rise to become a locomotive source of economic growth for South Lampung Regency.

This research aims to analyze the impact of government policy in determining shipping routes in Bakauheni on the economy in Lampung: (i). Analyze and review the requirements that must be met for Bakauheni Port if it is to obtain a policy for determining shipping lanes; (ii). Analyzing and reviewing the conceptual framework of government policy in Determining Shipping Routes in Bakauheni according to stakeholders; and (iii). Analyze and examine stakeholder expectations regarding government policy in determining shipping channels at Bakauheni Port and its impact on the economy.

Theoretical Basis

Linkage of Sea Transportation with Economic Growth

Port performance and port economics are closely related to macroeconomics. Therefore, every change in traffic or port operations and/ port organizations has an impact on the national economy, especially in the hinterland areas. This relationship is shown in Figure 1 below:

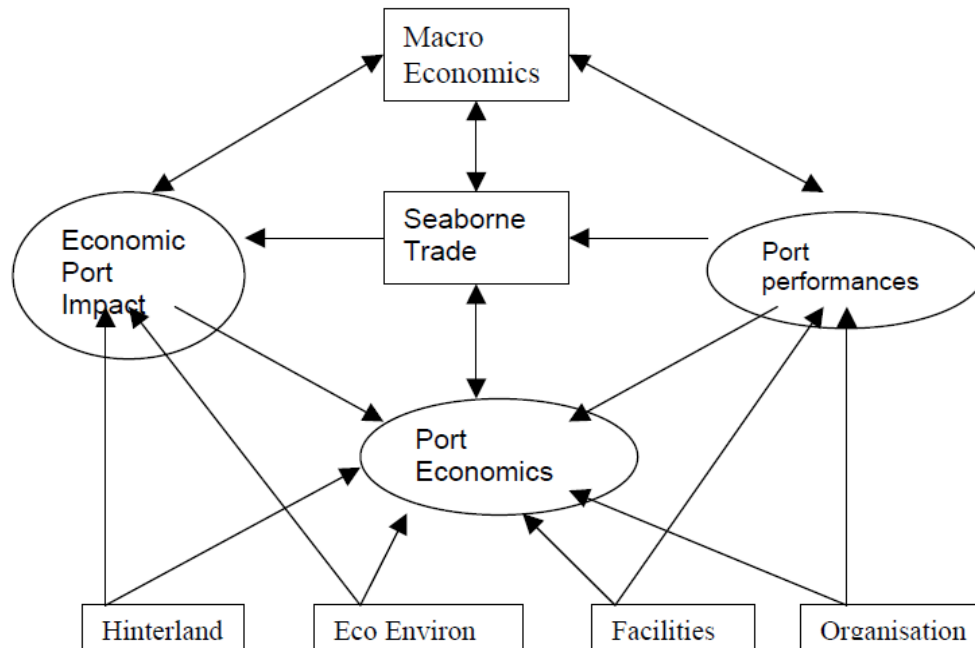


Figure 1. The Relationship between Maritime Transportation Policy and Macro Economics

Source: Francou, (2002).

Any changes in port infrastructure, organization, and operations impact supply chain efficiency and subsequently costs. Productivity in any system is output in relation to input and is a measure of efficiency in resource utilization. In turn, efficiency is one of the three basic output dimensions of organizational performance and refers to the ratio of output to input or benefits to costs. Meanwhile, effectiveness is related to achieving explicit or implicit goals. This efficiency has a significant impact on the national economy. According to Francou (2002), this impact occurs in at least four main elements, namely: (i). Efficiency is a major factor in competition between ports, if any; (ii). Efficiency influences export trade competition; (iii). Efficiency affects the price of imported goods; and (iv). Ports may have an impact on the balance of payments.

In the book *The Wealth of Nations*, Adam Smith (1776) said that the key to success in a capitalist society is the division of labour. As productivity increases and businesses produce more goods than they can sell locally, they need access to broader markets. So unlocking the power of 'division of labor' depended on transportation, and this was where maritime transportation had an important role to play at that time. The economic relationship with sea transportation is also explained from the results of research in Spain, where Parreno, et al., (2016) explained that sea transportation through cruise ship tourism has a large economic impact and requires new business lines. Investing in cruise ship docks and terminals, Cartagena's transformation into a home port is a great opportunity to attract more cruise passengers and increase the economic impact of the cruise industry. Research in China by Ming & Lee (2018) also found that sea transportation drives the maritime economy to the maximum. In the near future, China's maritime economy will be dominated by the sea transportation sector.

It is generally known that the maritime transportation sector plays a major role in maritime affairs to support a country's economy. Travel restrictions during the Covid-19 pandemic, causing a downturn in world trade and the global economy have been a major side effect of the pandemic, with especially severe effects on government trade

policies. Vicente (2021) states that the benefits of liberalizing sea transportation services will extend far beyond the maritime sector and will have the same positive effect on various other economic activities. All countries, regardless of their level of economic development, benefit from reducing maritime protectionism even if they do so unilaterally, as a transitional step towards global reform. Removing or reducing tariff and non-tariff restrictions impacting global maritime trade would offer major gains in terms of trade and GDP.

International Maritime Organization and its Role

The *International Maritime Organization* (IMO) is a world shipping organization which was formed and established for the first time as assistance to the United Nations (UN) in international maritime affairs. At the beginning of its establishment, this organization was called the International Maritime Consultative Organization (IMCO) and then the name changed to IMO since May 22, 1982. Indonesia joined as a member of the International Maritime Organization (IMO) since 1961, and became a Category C board in 1973. Category C is a representative from countries that have a special interest in maritime transport and reflect a fair distribution of representation geographically such as: Singapore, Malta, Malaysia, Cyprus, Indonesia, Bahamas, South Africa, Mexico, Chile, Belgium, Egypt, Peru, Morocco, Denmark, Turkey, Thailand, Jamaica, Philippines, Kuwait and Kenya. This IMO activity was then confirmed by the formation of Safety of Life at Sea (SOLAS) in 1974. Ideally, SOLAS was formed long before IMO was established, so that the world maritime community is more familiar with SOLAS 1974. Countries that are members of IMO (both categories A, B, and C) have the same maritime policy based on IMO standards. What differentiates Indonesia's maritime policy from other countries is the number of facilities because Indonesia is the largest archipelagic country.

In the international arena, IMO as an organization is a pioneer in improving maritime security although these measures have operational and commercial consequences, where ships and other personnel at port facilities will all feel the consequences of security regulations due to the widespread actions that must be taken. Delays throughout the supply chain are bound to occur and will impact loading and unloading, the placement of personnel on ships, and port facilities will be delayed (Isabelle, 2009). Research by Silber, et al., (2012) concluded that IMO can be a strong entity in providing solutions to various environmental and marine conservation problems. When used in conjunction with related efforts such as seafarer education, IMO, and the various navigation measures available to it, it is an effective forum in which coastal states can pursue large whale conservation goals without unduly compromising shipping interests. Research in Indonesia by Saputra (2021) also concluded that Indonesia has a commitment and carries out its mandate in membership of the IMO. This is reflected in the increase in the security and safety of shipping transport in waters, port safety and security, as well as protection of Indonesia's maritime environment. The impact obtained is that the image of security and safety in port shipping lanes (including in Bakauheni) increases and ultimately the economic contribution to the region is fulfilled.

Research Methodology

The approach used in this research is a qualitative approach. Creswell (2008) defines qualitative research methods as an approach or investigation to explore and understand a central phenomenon. Data collection was carried out through Focus Group Discussion (FGD) activities. Carey (1994) explains the implementation of the FGD method, namely using semi-structured interviews with a group of individuals with a moderator who leads the discussion (Lambert & Loiselle, 2008; Steubert & Carpenter, 2011; and Leung, et al., 2005) and with the number of individuals who varies for one discussion group (Dick, 1996 and Sena & Fairdian, 2014). Furthermore, from an implementation perspective, the FGD method requires an environment that is conducive to ongoing optimal interaction between discussion participants (Lambert & Loiselle, 2008; McLafferty, 2004; Streubert & Carpenter, 2003). In terms of validity, the FGD method is a method that has a high level of face validity and is generally oriented toward research procedures (Lehoux, et al., 2006).

Primary data collection through informants involved in FGD. There were 6 people who became informants in the FGD activities that were held. Following are the profiles of several related informants, as follows:

Table 1. Informant Profile

No.	Informant	Occupation	Agency	Category
1	Capt Budi Mantoro, M.Si., M.Mar	Director of Navigation, Directorate General of Transportation	Ministry of Transportation	Regulators
2	Ir. Junaidi, MM	Director of Navigation, Directorate General of Transportation	Ministry of Transportation	
3	Aryan Saruhian SP., ME	Head Bappeda of South Lampung	Regency Government of South Lampung	Regional Government
4	Capt. Rudi Sunarko, M.Mar	Branch Head	PT. ASDP Bakauheni	Operators
5	Capt, Ida Bagus Adi P., S.SiT.,M.Mar	Ship Captain	PT. ASDP	
6	Suharto	Branch Head	PT. ASDP Merak	

Source: Author (2022)

FGD data analysis uses NVivo software, a qualitative data analysis software developed by Qualitative Solution and Research (QSR) International. NVivo originates from the emergence of NUD*IST (Nonnumeric Unstructured Data, Index Searching, and Theorizing) software in 1981 (Bazeley & Jackson, 2013). The qualitative data management process in NVivo can help researchers in better and more efficient data management and the most important thing to pay attention to is the coding and nodes. Coding, namely the process of filling nodes with information related to concept categories (codes) that have been formed in the nodes system. Nodes are containers for storing information that is relevant to the concepts contained in each node system category (Bandur, 2019; Raco, 2010). The qualitative data analysis techniques developed in this research are hierarchy, matrix code, and comparison diagram.

Analysis of Results and Discussion

FGD Results

As explained in the previous chapter, in this research, informants were divided into 3, namely: Regulators, Regional Government, and Operators.

Regulators

There are 2 informants in the Regulator category, namely: Informant 1 Capt. Budi Mantoro and Informant 2 Ir. Junaidi, MM. Informant 1 generally conveyed the planning, implementation, and evaluation of policies for determining shipping lanes from a national and international perspective. Furthermore, the informant also touched on the role of other modes of transportation, especially related to supporting shipping lane connectivity, as well as the need for intermodal in the logistics system. The informant also linked shipping lane aspects with economic aspects, the following is the statement in question: *"Then the planning for determining shipping lanes is related to the activities that must be carried out, namely the activity of establishing shipping lanes. Then the role of the port and the national port order is as a node of sovereignty and of course also as a node of the transportation network to carry or deliver logistics in each region which is of course an economic gateway"*.

Furthermore, Informant 2 generally conveyed the planning, implementation, and evaluation of the Bakauheni crossing shipping lanes. Like Informant 1, Informant 2 also mentioned the link between economic aspects and shipping lanes. The following is a statement that demonstrates what is meant: *Yes, as we know, Merak Bakauheni, of course, what from Roro is very influential on the development or potential of commodities from Java to Sumatra and vice versa, especially now that there is also the Trans Sumatra toll road from Bakauheni to Palembang and later, of course, to all of Sumatra.*

Local Government

There is only one informant who is in the Regional Government category, namely: Aryan Saruhian. The explanation given by Informant 3 refers to the role of government policy in determining the flow of output in the economy of West Lampung Regency. First, the relevant informant described the demographic characteristics of West Lampung which included population, coastline, number of sub-districts, to the projects that were being carried out. Related to shipping lanes and shipping safety, the relevant informant mentioned explicitly the geographical condition of South Lampung which is prone to disasters.

Operators

There are 3 informants in this category. The explanation given by Informant 4 (Capt. Rudi Sunarko, M. Mar.) refers more to the description of the characteristics of the seven piers of the Bakauheni Port. Apart from that, the relevant informant also touched on aspects of shipping safety, especially when the ship is berthed. This is because the *Anchor Area* is not yet well organized. The following is the statement in question: *The current condition is that the in and out channel is narrow, but if later for development I think a channel can be made that passes south and is wide enough and still sufficient in depth. One thing that needs to be followed up on is the anchor area, so I think this in Merak and Bakauheni has not been well organized, so maybe this should be followed up together.* The explanation given by Informant 5 (Capt. Ida Bagus Adi P. S. Sit, M. Mar.) refers more to the impact felt as an operator, especially a ship captain, from implementing policies for determining shipping lanes. The following are several statements that demonstrate what is meant: *If the determination of shipping lanes is implemented, especially in the Bakauheni shipping lane, it will make the shipping sector, especially ships, more secure and comfortable because by establishing shipping lanes the safety and security of shipping is more guaranteed. Sail, calmly because the channel you traverse is free from disturbances and also free from ship frames.*

The explanation given by Informant 6 (Suharto) referred more to the economic aspects of the Bakauheni - Merak shipping route or vice versa. The following is the statement of the informant in question: *The Sunda Strait or Bakauheni/Merak are high-traffic routes or maybe even the busiest routes for shipping and because they are busy, they are the centers of the economy, especially Java and Sumatra. If the Java-Sumatra crossing is disrupted because of the flow, this will cripple the economy in Sumatra-Java.*

NVivo analysis

The following is an aggregate coding hierarchy to see which nodes are the most dominant (or have the highest number of coding activities) of all informants. In aggregate, there are at least 20 nodes with the highest hierarchy, as follows:

Table 2. Aggregate Hierarchy Nodes Reference

No.	Nodes	Ref.	Files Coded	Max. Value	Share
1	Navigation > Economy + Sustainability	5	5	6	83%
2	Navigation + Intermodal > Marine Communication + Shipping Safety + Sustainability	5	4	6	83%
3	Port Development	4	4	6	66%
4	SBNP > Shipping Safety	4	4	6	66%
5	Geographic Conditions	3	3	6	50%
6	Potential of Local Commodities	2	2	6	33%
7	Bakauheni – Merak Route Potential > Economic Growth	2	2	6	33%
8	Shipping Flow > Ship Delay > Logistics Costs	2	2	6	33%
9	Shipping Flow > Insurance Company Business Continuity	2	2	6	33%
10	Stakeholder Synergy > Connectivity	2	2	6	33%
11	Minimal Navigation Signs	2	2	6	33%

12	Geographical Conditions > Shipping Safety	2	2	6	33%
13	Peak Season > High Traffic	2	2	6	33%
14	Demand Support	2	2	6	33%
15	Traffic Rate	2	2	6	33%
16	Harbor Layout	2	2	6	33%
17	Port Capacity	2	2	6	33%
18	Shipping Flow > Legal Certainty	2	2	6	28%
19	Regulations > Shipping Safety	2	2	6	33%
20	Adoption of Regulations	2	2	6	33%

Source: Processed data (2023)

These results show that the 20 nodes above have the largest contribution to the overall hierarchy. This indicates that, as a whole (3 categories of informants), both implicitly and explicitly agree that the determination of shipping lanes (navigation) has an impact on the economy and also the sustainability of the maritime environment. Furthermore, the following will show the hierarchy of the Nodes1 System (The impact of international regulations on the policy of determining national shipping lanes).

Table 3. Nodes System Hierarchy Reference 1

No.	Nodes	Ref.	Files Coded	Max. Value	Share
1	Regulations > Shipping Safety	2	2	6	33%
2	Adoption of Regulations	2	2	6	33%
3	VTS	1	1	6	16%
4	S100World	1	1	6	16%
5	Tariff Regulation	1	1	6	16%
6	Local Regulations	1	1	6	16%

Source: Author (2022)

From Table 3, it can be seen that the nodes "Regulation > Shipping Safety" and "Regulation Adoption" have a contribution of 33% of the total available sources. This means that the influence of regulations on shipping safety adopted from international regulations was mentioned by 33% of the informants involved in the context of the impact of international policies on national policies. Next, the following will show the hierarchy of the Nodes 2 System (Impact of shipping lane policies on ports).

Table 4. Nodes System Hierarchy Reference 2

No.	Nodes	Ref.	Files Coded	Max. Value	Share
1	SBNP > Shipping Safety	4	4	6	66%
2	Geographical Conditions > Shipping Safety	2	2	6	33%
3	Shipping Flow > Legal Certainty	2	2	6	33%
4	LPS + VTS > Shipping Safety	1	1	6	16%

Source: Author (2023)

From Table 4, it can be seen that the node "SBNP > Shipping Safety" has a contribution of 66% of all existing sources. This means that, the influence of Shipping Navigation Assistance Facilities (SBNP) on shipping safety by 66% of informants involved in the context of the impact of shipping lane policies on ports. Furthermore, the impact of geographical conditions on shipping safety was mentioned by 33% of informants. The impact of shipping lane policies on shipping legal certainty was also discussed by 33% of the informants involved.

Furthermore, the following will be shown regarding the hierarchy of the Nodes 3 System (Determination of Shipping Channels Requirements).

Table 5. Nodes System Hierarchy Reference 3

No.	Nodes	Ref.	Files Coded	Max. Value	Share
1	Geographical Conditions	3	3	6	50%
2	Traffic Rate	2	2	6	33%
3	Harbor Layout	2	2	6	33%
4	Port Capacity	2	2	6	33%
5	Demand Support	2	2	6	33%
6	Prediction of Accident Impact	1	1	6	16%
7	Potential Changes to Port Routes	1	1	6	16%
8	Port Operations	1	1	6	16%
9	Land Legality	1	1	6	16%
10	Hydro Oceanographic Conditions	1	1	6	16%
11	Navigation Power	1	1	6	16%
12	Road Access	1	1	6	16%

Source: Author (2023)

From Table 5, it can be seen that the "Geographical Condition" node has a contribution of 50% of all available resources. This means that the geographical location/condition requirements were mentioned by 50% of the informants involved in the context of the prerequisites for implementing shipping lane policies. Furthermore, the impact of "Traffic Rate", "Port Spatial Planning", "Port Capacity", and "Demand Support" were each mentioned by 33% of the informants involved. Next, the following will show the hierarchy of System Nodes 4 (Impact of Policies for Determining Shipping Routes on the Economy).

Table 6. Nodes System Hierarchy Reference 4

No.	Nodes	Ref.	Files Coded	Max. Value	Share
1	Navigation > Economy + Sustainability	5	5	6	83%
2	Navigation + Intermodal > Marine Communication + Shipping Safety + Sustainability	5	4	6	83%
3	Local Commodity Potential	2	2	6	33%
4	Bakauheni – Merak Route Potential > Economic Growth	2	2	6	33%
5	Shipping Flow > Ship Delays > Logistics Costs	2	2	6	33%
6	Shipping Flow > Insurance Company Business Sustainability	2	2	6	33%

Source: Author (2023)

From Table 6, it can be seen that the nodes "Navigation > Economy + Sustainability" and "Navigation + Intermodal > Marine Communication + Shipping Safety + Sustainability" have a contribution of 83% of the total available

sources. This means that, it is proven that the policy of determining shipping lanes has an impact on the economy from the perspective of all informants. Furthermore, the impact of "Potential of Local Commodities", "Potential of the Bakauheni - Merak Route > Economic Growth", "Shipping Flows > Ship Delays > Logistics Costs", and "Sailing Flows > Insurance Company Business Sustainability" were each mentioned by 33% of the informants involved.

Next, the following will show the hierarchy of the Other Nodes System (things outside the research objectives that were touched on by all informants).

Table 7. Nodes System Hierarchy Reference Others

No.	Nodes	Ref.	Files Coded	Max. Value	Share
1	Port Development	4	4	6	66%
2	Stakeholder Synergy > Connectivity	2	2	6	33%
3	Peak Season > High Traffic	2	2	6	33%
4	Minimal navigation signs	2	2	6	33%
5	Micro small and Medium Enterprises	1	1	6	16%
6	Regional Development Planning, South Lampung	1	1	6	16%
7	Increasing Number of Tourists	1	1	6	16%
8	Connectivity + Demand Support > Connectivity	1	1	6	16%
9	South Lampung Demographic Conditions	1	1	6	16%
10	South Lampung Economic Growth Performance	1	1	6	16%
11	Information Disclosure	1	1	6	16%
12	Pier Characteristics	1	1	6	16%
13	Intermodal > Connectivity	1	1	6	16%
14	High Traffic Path	1	1	6	16%
15	Narrow Entry and Exit Flow	1	1	6	16%

Source: Author (2023)

From Table 7, it can be seen that the "Port Development" nodes contribute 66% of all existing resources. This means that the issue of port development was most dominantly touched upon by all informants outside the context of the previously determined research objectives. Furthermore, the impact of "Stakeholders Synergy > Connectivity" was mentioned by 33% of the informants involved.

Next, the results of the comparison diagram analysis will be displayed. This section is the second stage in coding analysis (Second Cycle Coding). Second Cycle Coding is based on nodes or coding that have been created previously (First Cycle Coding). The following will show the similarity of nodes between **Regulators and Operators, Regulators and Regional Governments, and Operators and Regional Governments**. Next, based on the analysis that has been carried out (first cycle coding and second cycle coding) a concept mapping will be built to draw a comprehensive pattern. Here is an image that shows what this means:

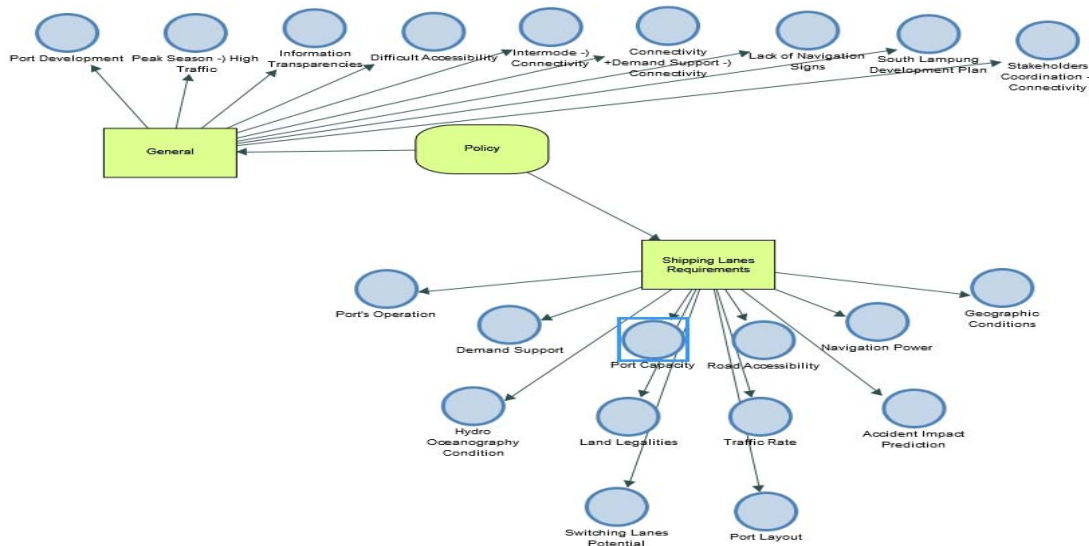


Figure 2. Concept Mapping

Source: Processed Data (2022)

From the figure above, it can be seen that there are several systems of nodes that are arranged into a unified framework related to the policies/ expectations for establishing shipping lanes alluded to by all informants. In this case, the Policy chart is divided into two forms, the first is General and Conditions for Determining Shipping Routes. The general policies include: port development, information disclosure, narrow entry and exit routes, intermodal connectivity, minimal navigation signs, and stakeholder synergy. Meanwhile, policies related to the prerequisites for determining shipping lanes are port operations, demand support, port capacity, road access, navigational power, geographical conditions, hydro-oceanography conditions, land legality, traffic rates, port spatial planning, and so on.

Conclusions and Policy Recommendations

Conclusions

Based on the results and analysis described previously, several conclusions can be drawn regarding this research, as follows:

- a. The necessary requirements related to shipping lane implementation policies are shown in the node 3 system. The prerequisites that are mentioned predominantly are geographical conditions, traffic conditions, port layout, port capacity, and demand support.
- b. International regulatory policies have had an impact on the implementation of national policy regulations related to shipping lanes. This can be seen from the existence of the "Regulation Adoption" node. This means that the policies or regulations in Indonesia are the result of the adoption of international regulations. The impact of the policy on determining shipping lanes for ports is to create better connectivity and provide increased security and safety in shipping activities. This can be seen from several nodes in the node 2 system, such as: "SBNP > Shipping Safety", "Geographical Conditions > Shipping Safety" and "Sailing Flows > Legal Certainty". The impact of SBNP on shipping safety was mentioned by 66% of the informants involved. This indicates that the informant agreed that the determination of shipping lanes would have an impact on the port itself.
- c. Stakeholder policies and expectations contained in research objectives 4 and 5 can be seen in the concept map which is compiled into a unified framework related to policies/expectations for determining shipping lanes alluded to by all informants. The policy of determining shipping lanes has also proven to have an economic impact, especially for Lampung's economy. This is shown from the Nodes 4 System. This means that, it is proven that the policy of determining shipping lanes has an impact on the economy from the perspective of all informants.

Furthermore, the impact of "Potential for Local Commodities", "Potential for the Bakauheni - Merak Route > Economic Growth", "Shipping Flow > Ship Delays > Logistics Costs", and "Shipping Flow > Insurance Company Business Continuity" were each mentioned by 33% of the informants involved.

Policy Recommendations

Based on the results of this study, there are several recommendations, including:

1. So that Regulators, in this case, the Ministry of Transportation, both from the Directorate of Navigation and the TSDP Directorate, can immediately carry out the determination of shipping lanes in the Bakauheni Port area, South Lampung, because after conducting research and searching for information, determining shipping lanes at Bakauheni Port is very important for improving the economy, especially in the South Lampung region.
2. So that the Regional Government, in this case, the South Lampung district, can support the activities of Determining shipping lanes in the Bakauheni Port area by, among other things, immediately establishing spatial planning and regional regulations that support the activities of Determining Shipping Channels in the Bakauheni Port area.
3. In terms of facilities, Bakauheni Port should immediately prepare a master plan to support the activities of this shipping channel.
4. It is also recommended for ship operators to better prepare their fleet of ships, especially in terms of the eligibility of the fleet, so that later they can also support this activity well so that the objectives of Determining Shipping Lanes can be achieved optimally and efficiently.
5. For channel users, namely the captains and their staff, to further improve their abilities and reliability by being more updated, both in terms of competence and other knowledge related to shipping channel determination activities so as to create safe, comfortable, and efficient shipping in order to improve the economy not only in Lampung. south but also boost the national economy.

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