

# Optimizing the Utilization of the Maritime Service Industry in Supporting the National Defence Strategy at Sea

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**Abstract** - This study aims to analyse and identify the potential for optimizing the maritime service industry in supporting the national defence strategy at sea. Oceans have become a crucial strategic asset in achieving the security and sovereignty of a country. Therefore, efforts to effectively utilize the maritime service industry are very important. This research will be conducted through a descriptive approach and quantitative analysis by collecting data from various sources, including the latest literature, related government policies, and maritime industry data. SWOT analysis will be used to evaluate the strengths, weaknesses, opportunities and challenges faced by the maritime service industry in supporting the country's defence strategy at sea. It is hoped that the results of this research will provide a more comprehensive understanding of the potentials and obstacles that exist in the utilization of the maritime service industry as part of the national defence strategy at sea. The findings from this research can be the basis for developing policies that are more effective in increasing the role of the maritime service industry in supporting maritime security and national interests

**Keywords:** Maritime Services Industry, National Defence Strategy, Sea, Maritime Security.

## I. INTRODUCTION

Oceans have long been an invaluable strategic resource for many countries around the world. Its existence is not only as a means of transportation and international trade, but also as a gateway for the defence and security of a country.[1] Abundant natural wealth, vital shipping lanes, and strategic potential make the sea an area that needs to be protected and used wisely. In an effort to ensure sovereignty, security and national interests, countries must not only rely on traditional military strength, but also optimize the maritime service industry as an integral part of the country's defence strategy at sea.[2][3] The maritime service industry has become one of the important sectors in the global economy and plays a crucial role in supporting various marine and fishery activities, international trade, marine tourism, exploration of marine natural resources, and maintenance and security of maritime areas.[4][5] Its existence plays a strategic role in facilitating connectivity between nations through major shipping lanes, which are the backbone of world trade. The maritime service industry covers various sectors, such as shipping, shipping, logistics, ship building, ship repair and maintenance, port services, maritime insurance, and many more. In national defence at sea, the maritime service industry has a crucial role to support military operations, maritime area monitoring, security patrols, and maritime law enforcement.[6][7] In addition, the maritime service industry also plays a role in supporting sea-related economic and trade activities, which are a significant source of income for coastal countries.

With advances in technology, the maritime service industry has undergone significant transformations in various aspects. Innovations in shipping, logistics, supply chain management and maritime monitoring have increased the efficiency, security and reliability of the services offered by the industry.[8][9] In addition, the use of digital technologies such as the Internet of Things (IoT), Big Data and Artificial Intelligence (AI) has changed the way businesses in this sector are run. In recent decades, technological developments and innovations have changed the face of the maritime services industry.[10] The use of information, communication and sensor technology has accelerated the process of tracking and monitoring ships, increasing efficiency and security in maritime operations. However, challenges also arise, such as cyber threats, piracy and other illegal activities in the maritime area which require a fast and integrated response from the maritime service industry and national defence authorities.[11] The use of the maritime service industry has broad implications, including in the economic, environmental and security sectors.[12] Economically, this industry

provides employment for thousands of people, whether in the shipping, logistics or port activities sector. Revenue generated from international trade and marine activities also contribute significantly to a country's economic growth.

The use of the maritime service industry also raises challenges related to the environmental impact it causes. For example, increased ship traffic can increase the risk of marine pollution and damage to maritime ecosystems.[13] Therefore, it is important for this industry to focus on environmentally friendly practices and sustainability in order to protect the natural wealth of the sea for future generations. One aspect that is of primary concern is the strategic role of the maritime service industry in supporting the defence and security of a country. The oceans, with their vast territory and strategic potential, occupy a central position in the interests of national security.[14][15] Therefore, optimizing the utilization of the maritime service industry as part of the national defence strategy is important to maintain state sovereignty in the maritime area and face the ever-evolving security challenges.[16] This study aims to comprehensively explore and analyse the optimization potential of the maritime service industry in supporting the national defence strategy at sea. Through analysis of relevant data and information, this study will try to identify the key factors that influence the ability of the maritime service industry to contribute to the success of the national defence strategy. This research does not only cover security and defence aspects, but also has a direct impact on the sustainability and development of the national economy. Along with the increasing flow of globalization and connectivity, the sea as an international trade route will increasingly be in the spotlight and present new challenges for countries to maintain their sovereignty and security. Therefore, this research has relevance and urgency in facing the changing dynamics of the maritime world that continues to grow. By disclosing the potentials and obstacles faced by the maritime service industry, it is hoped that this research will provide guidance for decision makers, strategic planners, and related parties to develop policies and programs that are more effective in utilizing the maritime service industry optimally to support defence strategy. Country on the sea. That way, the state can strengthen its sovereignty, protect its maritime resources, and actively contribute to maintaining peace and stability in the region and the world as a whole.

## **II. METHOD**

This research will use a combination approach between qualitative methods to gain a holistic understanding of the utilization of the maritime service industry in supporting the country's defence strategy at sea.[17] This research aims to comprehensively investigate and analyse the optimization potential of the maritime service industry in supporting the national defence strategy at sea. By identifying the key factors influencing the role of the maritime services industry in sea defence, this research will provide in-depth insights into how countries can effectively integrate this industry into their national defence strategy. It is hoped that the results of this research will provide strategic guidance for decision makers in increasing the role of the maritime service industry as an integral part of national defence policy at sea. The results of the data analysis and research findings will be interpreted comprehensively. Strategic recommendations will be prepared based on the results of analysis and case studies, as well as based on qualitative and quantitative considerations. This recommendation is expected to provide guidance for decision makers in developing policies and strategies that are more effective in the utilization of the maritime service industry to support the country's defence strategy at sea. This research will contribute meaningful knowledge to readers, government and other stakeholders in optimizing the role of the maritime service industry as an important asset in maintaining the sovereignty and security of the country's maritime territory. It is hoped that this research can become a reference and inspiration for countries in building a strong and sustainable maritime power.

## **III. RESULT AND DISCUSSION**

### **A. Development/procurement of new ships**

The current condition of the state's defence strategy at sea demands an increase in Indonesia's maritime military capabilities in dealing with various threats and challenges in the maritime area. Therefore, the utilization of the maritime service industry is a strategic solution to achieve this goal. In the field of building and procuring new ships, the maritime services industry has a central role in providing modern, sophisticated and high-quality ships that meet the needs and demands of Indonesia's maritime defence. In an effort to support the national defence strategy at sea, the maritime service industry must be able to innovate and develop the latest ship technology. Advances in maritime technology are key in building ships with superior

performance, reliable combat power, and optimal operational capabilities. In this case, cooperation between the maritime service industry and research institutions and universities in the marine and maritime sector is important to achieve better ship technology advancement. Where the use of the maritime service industry also has a positive impact on the Indonesian economy. The construction of new ships requires the role of various industrial sectors, such as the steel, electronics and machinery industries, thereby creating jobs and driving economic growth. In this context, the government can support and encourage the development of the maritime service industry through supportive policies and incentives for investment in the maritime sector. The expected condition is the realization of synergy between the maritime service industry and the national defence strategy at sea. Thus, the Indonesian navy will have modern ships that are ready to face various threats and challenges, both from criminal groups, cross-border criminals, and illegal activities in territorial waters. In addition, the utilization of the maritime service industry is also expected to be able to increase Indonesia's maritime military superiority at the regional and global levels.

#### **B. Vessel maintenance and repair services**

The current condition of the state's defence strategy at sea demands reliable and ready-to-use capabilities in dealing with threats in the maritime area. An important aspect of the strategy is ship maintenance and repair, which ensures the Indonesian navy has a fleet that is always in combat-ready condition. In this context, the maritime service industry has a strategic role as a partner that supports Indonesia's maritime military capabilities. In an effort to optimize the utilization of the maritime service industry in the maintenance and repair of ships, the collaborative role between the Navy and the maritime service industry is key. Close cooperation between the military and industry will increase the efficiency and effectiveness of the maintenance process and strengthen the capabilities of the Indonesian navy. The capability of the maritime service industry in ship maintenance and repair covers various aspects, from routine maintenance to ship repair and modernization. The application of the latest technology and management systems is important in improving the service quality of the maritime service industry. In addition, the importance of supporting local industries is a crucial aspect in the utilization of the maritime service industry. The development of local industries in terms of manufacturing ship components and spare parts will encourage local economic growth and increase the independence and resilience of the national maritime industry. Under expected conditions, synergistic cooperation between the Navy and the maritime service industry will result in timely, quality and efficient maintenance and repair of ships. This will ensure that Navy ships are always in combat-ready condition and can be relied upon in carrying out the national defence strategy at sea.

#### **C. The field of supply of spare parts materials**

The current condition of the state defence strategy at sea demands the readiness and availability of adequate spare parts materials to maintain and repair naval vessels. Ship reliability and readiness are crucial elements in maintaining the security and sovereignty of Indonesian waters. In this context, the maritime service industry plays a strategic role as a provider of adequate and high quality spare parts materials. In an effort to optimize the utilization of the maritime service industry in the supply of spare parts materials, cooperation between the Navy and industry is crucial. The synergy between the military and the maritime service industry will increase efficiency and timeliness in the supply of spare parts and ensure that naval vessels are always ready for use. The capability of the maritime service industry in the provision of spare parts materials covers various aspects, such as adequate stock, procurement of the right spare parts, as well as product quality and reliability. The application of supply chain management systems and information technology is important in increasing efficiency and timeliness in the provision of spare parts. The importance of developing local industries in the production of spare parts is a crucial aspect in the utilization of the maritime service industry. The development of local industrial capabilities will increase the independence and resilience of the national maritime industry, as well as support local economic growth. Under expected conditions, the synergy between the Navy and the maritime service industry in the supply of spare parts materials will result in the availability of appropriate, high-quality and ready-to-use spare parts. This will ensure that Navy ships are always in combat-ready condition and optimally support the country's defence strategy at sea.

#### **D. Contribution**

- 1) The contribution of the use of the maritime service industry in the context of a national defence strategy at sea has several important aspects: Utilization of the maritime service industry allows the Indonesian navy to have modern, sophisticated and high-quality ships. These ships are equipped with the latest technology, reliable combat power, and optimal operational capabilities. This will increase Indonesia's maritime military capability in facing various threats and challenges in the maritime area; Utilization of the maritime service industry in the construction of new ships will have a positive impact on the

Indonesian economy. The shipbuilding process requires contributions from various industrial sectors, such as the steel, electronics and machinery industries, which will create jobs and promote economic growth; by having modern and superior ships, the Indonesian navy will increase its maritime military advantage at the regional and global levels. The existence of high quality ships will send a strong message about Indonesia's maritime defence capabilities to other parties.

- 2) The contribution of the utilization of the maritime service industry in the maintenance and repair of ships has several important aspects: In the national defence strategy at sea, the readiness and reliability of warships is very important. By leveraging the maritime service industry in ship maintenance and repair, the Indonesian navy can ensure that its fleet is always in a combat-ready condition. Ships that are always in optimal performance will increase Indonesia's maritime military capabilities in dealing with threats in the maritime area; the maritime service industry must apply the latest technology and management systems in ship maintenance and repair. This will improve the quality of service and ensure Navy ships are maintained to a high standard, so that they remain service-ready in a variety of situations; In utilizing the maritime service industry, the importance of developing local industries as manufacturers of ship components and spare parts cannot be ignored. Local industrial development will encourage local economic growth, increase the independence and resilience of the national maritime industry, and reduce dependence on imports.
- 3) The contribution of the utilization of the maritime service industry in the supply of spare parts material has several important aspects: In the national defence strategy at sea, adequate readiness and availability of spare parts materials is very crucial. By leveraging the maritime service industry as a supplier of spare parts, the Indonesian navy can ensure that its ships are always equipped with the right and high-quality spare parts, so that the ships remain ready for use and in optimal operational condition; Close cooperation between the Navy and the maritime service industry will improve efficiency and timeliness in the supply of spare parts. With this synergy, Navy ships can immediately obtain the necessary spare parts, so that the readiness and availability of materials is well maintained; the ability of the maritime service industry to provide high-quality and reliable spare parts will ensure that Navy ships continue to operate properly and are able to maintain the security and sovereignty of Indonesian territorial waters.

## **E. Indicator of Success**

- 1) The maritime service industry has provided modern, sophisticated and high-quality vessels that suit the needs and demands of Indonesia's maritime defence. An increase in the number and quality of these ships will prove that the maritime service industry has contributed significantly to increasing Indonesia's maritime military capabilities; the maritime service industry has helped ensure that the Navy's fleet of ships is always in serviceable condition. Fleet reliability will be a reflection of the efficiency of maintenance, repair, and procurement of spare parts carried out by the maritime service industry; the maritime service industry has contributed to the development and innovation of the latest ship technology. Improved ship technology will provide military and operational advantages in facing various threats and challenges in the maritime area.
- 2) This indicator reflects the extent to which Navy ships have been maintained and repaired in a timely and quality manner so that they are always in combat-ready condition. This level of readiness will be a measure of the efficiency and effectiveness of the maritime service industry in maintaining and repairing military vessels; Ship maintenance and repairs are carried out in a timely manner according to a predetermined schedule. Timely maintenance and repair will ensure Navy ships are always operational; the level of satisfaction of the Navy with the services provided by the maritime service industry. High service quality, including the application of the latest technology and management systems, will increase the effectiveness of ship maintenance and repair; Availability of ship components and spare parts needed for maintenance and repair. Adequate availability will ensure a smooth maintenance process and minimize excessive waiting times; the maritime service industry has contributed to the development of the local industry in terms of manufacturing ship components and spare parts. Local industrial development will increase the independence and resilience of the national maritime industry.
- 3) This indicator measures the availability of sufficient spare parts material for naval vessels. A high level of availability indicates that the maritime service industry has succeeded in providing sufficient spare parts to maintain the readiness and operational feasibility of ships; the Navy's level of satisfaction with the services and support provided by the maritime service industry. A high level of satisfaction indicates that the cooperation between the Navy and the maritime service industry is running well and efficiently; timeliness in the procurement of spare parts by the maritime service industry. Timely procurement will ensure naval vessels can be repaired or maintained promptly without delays impacting operations; quality

and material reliability of spare parts provided by the maritime service industry. High quality and reliable spare parts will enhance the durability and performance of naval vessels.

#### F. Solution to problem

The Indonesian Navy is still very dependent on foreign products to meet its defence needs, so it is necessary to think about optimizing cooperation with the maritime service industry in the field of shipbuilding in such a way as to be able to produce defence equipment towards fulfilling minimum basic needs. The government as the policy maker must be able to coordinate all the potential possessed by the Indonesian people in developing the domestic industry in order to achieve independence in the procurement of defence equipment. The steps taken are in the form of establishing policies, setting strategies and concrete efforts to support these policies.

##### 1) Policy

The policy pursued in the context of cooperation between the Indonesian Navy and the maritime service industry in the field of harping to support the main tasks of the Indonesian Armed Forces is to increase cooperation between the Navy and the maritime services industry by building and maintaining the capability and readiness of the main tools of the Indonesian Navy's weapons system which are self-reliance oriented. Transfer of technology, efforts to improve the quality of human resources and production results and minimize dependence on defence equipment from abroad and the need to foster a spirit of loving domestic production for the Indonesian Navy in terms of using defence equipment.

##### 2) Strategy

Based on the policies that have been determined, the strategies that have been determined to increase cooperation between the Indonesian Navy and the maritime service industry in the field of shipbuilding to support the implementation of the main tasks are as follows::

- a) Strategy 1: The government needs to establish strategic cooperation with the maritime service industry to support the development of new vessels. This collaboration includes regulatory arrangements, incentive policies, and financial support for the maritime service industry engaged in ship building. In addition, this collaboration also strengthens communication and collaboration between government and industry to identify strategic needs and priorities in the construction of new ships; the government needs to develop a long-term ship development plan that includes identifying the needs and demands of Indonesia's maritime defence within a certain period of time. This plan must be based on an in-depth analysis of potential threats and challenges in the maritime area and involve input from experts and related parties. With a long-term plan, the construction of new ships can be directed and efficient.
  - b) Strategy 2: The maritime service industry needs to strengthen cooperation and partnership with the Navy in providing ship maintenance and repair services. Close cooperation will ensure ship maintenance is carried out on time, according to military standards, and in accordance with the ship's operational needs. Open communication between the two parties will help understand the needs and priorities in ship maintenance; Utilization of information technology, automated management systems, and other cutting-edge technological devices in ship maintenance and repair will increase efficiency and accuracy in the maintenance process. Sensor-based monitoring and real-time monitoring of ship conditions can help detect potential damage early and ensure timely remedial action.
  - c) Strategy 3: The government and the maritime service industry need to conduct an in-depth study of the material requirements for spare parts for Navy ships. This study should cover the identification of the most critical types of spare parts, consumption levels, and estimation of the inventory required to maintain the readiness of the ships. Accurate data will be the basis for planning and procuring spare parts materials that are timely and in the right quantity; the maritime service industry needs to ensure that the spare parts supply chain runs efficiently and in a coordinated manner. Good coordination between producers, distributors and logistics service providers will ensure that spare parts material reaches the ship in the right time and in good condition. Utilization of information technology in supply chain management will help monitor and optimize the entire spare parts supply process.
- 3) Effort: Some of the efforts that must be carried out in following up on the policies and strategies mentioned above are to empower the maritime service industry in increasing the independence of fostering the main tools of the Indonesian Navy's weapons system, namely:

- a) The rapid development of maritime technology is a key factor in building reliable and sophisticated ships. The use of the maritime service industry must be encouraged to innovate and research the latest ship technology. In this case, close cooperation between the maritime service industry and research institutions and universities in the maritime and maritime sector is important. Government support in the form of research funds and policies that encourage collaboration between the public and private sectors will strengthen this effort; the government needs to issue policies that support and provide incentives for investment in the maritime sector. These policies can be in the form of tax facilities, ease of permits, and support in licensing. With conducive policies, the maritime service industry will be able to increase ship production capacity, reduce dependence on imports, and strengthen competitiveness in the international market.
- b) In facing various threats and challenges in the maritime area, timely and efficient ship maintenance is crucial. Efforts should be made to strengthen cooperation between the Navy and the maritime service industry in setting up a more planned and optimal maintenance schedule. The application of the latest information technology and supply chain management systems will help improve efficiency and timeliness in the provision of spare parts and ship maintenance work; Utilization of the maritime service industry in the field of ship maintenance and repair requires the availability of adequate and high quality spare parts materials. Close cooperation is required between the Navy and the maritime service industry in managing the stock and distribution of spare parts. The use of an efficient supply chain management system will help ensure the availability of the right spare parts and ready to use when needed.
- c) Efficient spare parts material stock management is required to ensure the availability of spare parts when needed. Collaboration between the Navy and the maritime service industry in planning and managing parts procurement in a planned and measured manner will help avoid critical material shortages. The application of modern information technology and supply chain management systems will help improve efficiency in the distribution of spare parts to various locations; the quality and reliability of spare parts products must be guaranteed. Selection of a reliable spare parts provider that meets the established quality standards is important. The application of periodic certification and audits will help ensure adequate quality of spare parts. The government can play a role in providing regulations and incentives to encourage the maritime service industry to produce high quality spare parts.

#### IV. CONCLUSION

Increasing Indonesia's maritime military capability to deal with threats and challenges in the maritime area is a strategic priority in the national defence strategy. In this context, the use of the maritime service industry as a strategic solution in the field of building and procuring new ships is key in strengthening Indonesia's maritime defence. The maritime service industry plays a central role in providing modern, sophisticated and high-quality ships that suit Indonesia's maritime defence needs. The development of the latest and innovative maritime technology is a major factor in building ships with superior performance, reliable combat power, and optimal operational capabilities.

In conditions of the national defence strategy at sea which demands reliable and ready-to-use capabilities, maintenance and repair of ships is an important aspect to ensure that the Indonesian navy has a fleet that is always in combat-ready condition. The maritime service industry has a strategic role as a partner that supports Indonesia's maritime military capabilities in terms of ship maintenance and repair. Collaborative cooperation between the Navy and the maritime service industry is key in optimizing the utilization of this industry. The synergy between the military and industry will increase the efficiency and effectiveness of the maintenance process and strengthen the capabilities of the Indonesian navy. The maritime service industry has capabilities in various aspects of ship maintenance and repair, from routine maintenance to ship repair and modernization. The application of the latest technology and management systems is important to improve the service quality of the maritime service industry, so that the Navy's ships remain in combat-ready condition.

Cooperation between the Navy and the maritime service industry is crucial in optimizing the use of this industry in the supply of spare parts materials. The synergy between the military and industry will increase efficiency and timeliness in the provision of spare parts and ensure that naval vessels are always ready for use. The capability of the maritime service industry in the provision of spare parts materials includes aspects of adequate stock, procurement of the right spare parts, as well as product quality and reliability. The application of supply chain management systems and information technology is important in increasing efficiency and timeliness in the provision of spare parts.

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