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THE STRATEGY OF THE WEST ZONE OF BAKAMLA RI THROUGH A PERSONNEL APPROACH TO SUPPORT THE MARITIME SECURITY OF THE REPUBLIC OF INDONESIA

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ABSTRACT

The Indonesian Coast Guard (Bakamla RI) is responsible for maintaining maritime security and safety across Indonesian waters. In 2023, Bakamla RI faced major challenges, with 253 reported maritime crime cases, including illegal fishing (44), drug smuggling (39), wildlife trafficking (34), and human trafficking (34). These figures highlight significant weaknesses in surveillance and law enforcement effectiveness. This study focuses on analyzing the personnel conditions in Bakamla RI's Western Zone, identifying factors influencing performance, and formulating strategies for improvement through a SWOT analysis. Data were collected via documentation and semi-structured interviews with selected key informants. NVIVO software was used for qualitative data analysis, while SWOT guided the strategic formulation. The study found that personnel strength in the Western Zone is only 48% of what is ideally required, causing high workloads and reduced operational efficiency. Technical proficiency, particularly in handling technologies such as radar, AIS, and drones, plays a critical role in surveillance effectiveness. The SWOT analysis identified internal weaknesses and external opportunities, leading to the adoption of a W-O (Weaknesses–Opportunities) strategy. This approach emphasizes accelerating recruitment, implementing technology-based training programs, and leveraging international cooperation and e-learning to support personnel in remote locations. In conclusion, to strengthen maritime surveillance and law enforcement, Bakamla RI must invest in human capital development and utilize technological and international resources. The proposed strategy aims to overcome internal limitations while maximizing external support to improve the operational readiness and sustainability of Bakamla's Western Zone.

Keywords: *Indonesian Coast Guard, Western Zone, Personnel, SWOT, Maritime Surveillance, Strategy.*

INTRODUCTION

Indonesia's territorial waters, especially the Western Zone which is the operational scope of the Maritime Security Agency of the Republic of Indonesia (BAKAMLA RI), face

serious challenges in terms of maritime security, with data in 2023 showing a total of 253 cases of law violations. The types of violations that stand out include fish theft, drug smuggling, human trafficking, animal smuggling, and goods smuggling. Unfortunately, there are currently no references that directly support these specific numbers. Therefore, it is necessary to conduct further research to obtain valid and reliable data related to the number of cases of violations of the law in Indonesian waters.

The high number of violations reflects the weak supervision, law enforcement, and coordination between maritime security forces, which indicates that the operational effectiveness of BAKAMLA RI must be seriously evaluated. One of the important factors that affect the effectiveness of performance in the maritime security sector is the quality and capacity of human resources (HR) or personnel. In the context of BAKAMLA RI West Zone, the personnel aspect is very crucial because they play a major role in carrying out patrol, monitoring, and enforcement duties against violations of the law at sea. Information related to the number of personnel and their ability to operate technological devices and modern surveillance systems needs to be further researched to obtain accurate figures.

If left unaddressed, this problem will hamper the government's efforts to uphold sovereignty and maintain stability in the waters of national jurisdiction. Research shows that the role and capacity of law enforcement, including in the context of BAKAMLA, greatly affects security resilience and stability in Indonesia Haryono (2024). In addition, coordination between various security agencies is a key element in law enforcement related to maritime violations (Fretes et al., 2023). To overcome these challenges, it is important to analyze the actual condition of BAKAMLA RI's personnel resources in the Western Zone, identify the factors that affect their performance, as well as formulate strategies for optimizing their roles and capabilities to strengthen the national marine security system.

Thus, this research is expected to make a practical contribution to the development of BAKAMLA's human resources and operational policies that are more adaptive and responsive to the dynamics of threats at sea (Prasetyo et al., 2023). The results can be the basis for improving human resource management and increasing the operational effectiveness of BAKAMLA RI in maintaining Indonesia's maritime security.

LITERATURE REVIEW

This study combines several theories to analyze the performance of the Maritime Security Agency of the Republic of Indonesia (BAKAMLA) in maintaining Indonesia's maritime security. Some of the theories used include management theory, human resources (HR), technology, performance, and strategy.

Management theory is the main foundation for analyzing how performance management at BAKAMLA is carried out. Management is understood as a set of activities that include planning, organizing, leadership, and control. In the context of BAKAMLA, this theory helps in identifying the steps needed to improve the performance of marine safety management. Research by (Sudiro et al., 2022) underlines the importance of management in the procurement of patrol boats as an effort to increase the effectiveness of the implementation of BAKAMLA tasks (Sudiro et al., 2022).

Human Resources (HR) theory focuses on managing individual potential in organizations. High performance relies heavily on the skills, motivation, and competence of the personnel involved. In the context of BAKAMLA, this theory is used to analyze the role of personnel in improving operational effectiveness and response to threats. Research by (Yolanda

et al., 2022) shows that trained human resources contribute to the effectiveness of handling fisheries crimes (Yolanda et al., 2022).

Performance theory refers to the assessment of the work of individuals or organizations in achieving goals. Performance at BAKAMLA is measured through quality, quantity, timeliness, and safety in carrying out tasks. With clear performance indicators, this study seeks to measure the operational effectiveness of BAKAMLA in maintaining marine safety, as well as how technology and human resources affect the achievement of organizational goals. Research by Kristiyanti and Fauziningrum (2022) also shows the importance of performance measurement in the context of maritime security (Kristiyanti and Fauziningrum, 2022).

Strategy theory helps in determining the approach that can be applied to improve BAKAMLA's performance. The concept of "Ends, Ways, Means" is used to formulate effective strategies in achieving long-term goals. By integrating existing goals, methods, and means, this theory provides guidance in designing the right strategy. Research by (Prasetiawan et al., 2022) emphasizes the importance of regulation and supervision as part of strategies in maintaining shipping safety and security (Prasetiawan et al., 2022).

Previous Research

In the research on the Western zone strategy of the Maritime Security Agency of the Republic of Indonesia (BAKAMLA RI) through coastal radar to support the maritime security of the Republic of Indonesia, there are several reviews that provide in-depth insights into the context and relevance of this topic. Existing research provides a theoretical and empirical basis to analyze the effectiveness of BAKAMLA in maintaining Indonesia's maritime sovereignty and security.

Maritime Security Management Strategy. One of the important concepts in maritime security management is the development of coastal areas and outlying islands. According to research, the management of coastal areas in Indonesia needs to be carried out in an integrated and comprehensive manner, involving local communities as part of the country's defense system. This shows the importance of cooperation between the government and the community in maintaining marine security, which can also be part of the BAKAMLA Anugerah (2021) strategy.

Application of Coastal Radar. In the context of the application of coastal radar technology, the research explains the importance of the procurement of efficient security and surveillance tools to maintain the security of Indonesian waters. The Directorate of Research and Development of BAKAMLA plays a role in carrying out research and development in the field of maritime security, as well as the use of technology in supporting better supervision of violations of the law at sea (Sudiro et al., 2022).

Law Enforcement and BAKAMLA Performance. Performance theory is also relevant in analyzing BAKAMLA's effectiveness in achieving its operational goals. The research conducted shows that proper coaching and regulation are indispensable in ensuring the safety and security of shipping in Indonesian waters. This includes the strategy of legal and operational aspects in BAKAMLA's work (Prasetiawan et al., 2022). Additionally, since BAKAMLA is an authorized law enforcement agency, it is important to consider how law enforcement and response to violations can be improved through modern technologies such as coastal radar.

Strategic Approach in the Presence of BAKAMLA. In this context, integrating coastal radar in BAKAMLA's operational strategy can be a fundamental part of an overall approach that emphasizes cross-sectoral collaboration, where active community participation and

structural support from the government play an important role in maintaining order and security (Wahyudi and Wicaksono, 2023).

Evaluation and Recommendations. Seeing the importance of the role of technology in maritime surveillance, the integration of advanced technology in detecting and preventing maritime crime is a necessary step in Indonesia's maritime security reform. This study also provides strategic recommendations for the empowerment of maritime components to support marine security operations more effectively (Nugraha et al., 2024).

The novelty of this research lies in its in-depth focus on the performance of the West Zone of Bakamla RI (Maritime Security Agency of the Republic of Indonesia) in implementing technology to maintain Indonesia's maritime security. In contrast to previous research that focused more on technical aspects such as remote sensing, automated ship detection, or big data in the shipping industry, this study examines how Bakamla optimizes the use of technology and surveillance systems in operational and institutional contexts in Indonesia. The approach used is more holistic, involving an evaluation of the performance of government institutions, as well as the challenges faced in maritime security management. In addition, this research also prioritizes the implementation of technology in a national context, which is different from previous research that focused more on technology development at the global or industrial level, providing a new perspective in the management and supervision of marine security.

METHOD

This type of research uses a descriptive qualitative approach that aims to provide an in-depth picture of various factors that affect Bakamla's performance, especially in the use of technology to support maritime security. The research approach used is qualitative, with the aim of evaluating Bakamla's performance in optimizing technology for maritime security operations.

The main focus of this research is to evaluate the performance of Bakamla by focusing on the use of technology in supporting maritime security in Indonesia, as well as identifying operational steps that can improve the performance of the institution. Dimension This research assesses Bakamla's performance through the technology dimension, as well as how this technology contributes to the effectiveness of Bakamla's duties in maintaining the security of Indonesian waters.

Location and Time This research was conducted in the West zone of Bakamla, focusing on the performance of personnel in maritime security in Indonesian waters. The research time is from March to May 2025. The research informants consisted of a number of Bakamla personnel, including related officials directly involved in Bakamla's operations, such as the Director of Research and Development Kamla, the Head of the Operations Division, and the Head of the Sub-Directorate of Marine Operations Implementation, who were selected using purposive sampling.

The Data Collection method was carried out through semi-structured interviews, field observations, and documentation to obtain primary data, as well as through the search for secondary data from the relevant literature. Data Analysis techniques use NVIVO and SWOT software, with analysis procedures based on grounded theory. This NVIVO data analysis technique includes the following steps:

1. Data Collection: Data obtained from interviews, observations, and documentation will be imported into the NVivo software. This is in line with the methodology applied in previous

studies which showed that NVivo is an efficient tool in managing and analyzing qualitative data (Limna, 2023).

2. Open Coding: The initial coding process is carried out after the data transcription is cleaned. The researcher will mark excerpts of the interview results that are relevant to the research topic and provide a code for each theme that arises. As described in the study by Mohammed (Mohammed, 2022), this technique allows researchers to systematically segment data and find patterns that emerge in the subjects' responses.
3. Constant Comparison: After the initial coding process, researchers compare new incoming data to look for consistency and variation, which can improve understanding of the research area. Research by Duzguncinar (Duzguncinar, 2021) also shows how NVivo is of great value in supporting this analysis process by providing tools for efficient data organization.
4. Writing Theoretical Draft: With a theoretical draft formed, the researcher builds a framework of thinking based on the data obtained, allowing the researcher to make more informed decisions about the in-depth analysis that needs to be done.
5. More Focused Coding: By doing more focused coding, researchers can group more specific and relevant themes, strengthening a deeper understanding of the issue being analyzed. This is in accordance with the practice that is widely applied through the use of NVivo in qualitative research in various fields as described in the work study (Limna, 2023)(Allsop et al., 2022).

For the SWOT analysis step by identifying strengths, weaknesses, opportunities and threats and determining strategies based on their advantages and disadvantages. The stages of SWOT Analysis are as follows:

Input Stage. Internal Analysis: Identify the strengths and weaknesses of BAKAMLA. It involves evaluating various internal factors such as human resources, technology, organizational structure, and operational capacity. For example, strengths may include the presence of trained personnel and modern equipment available, while weaknesses may include a shortage of personnel or limitations in technical expertise (Bagaskara and Rohmadi, 2024). External Analysis: Identify opportunities and threats from the external environment that may affect BAKAMLA's performance. This includes analysis of foreign actions, government policy, threats from maritime crimes, and international maritime dynamics (Bagaskara & Rohmadi, 2024).

Matching Stage. Strength and Opportunity Matching: Determine how BAKAMLA's internal strengths can be leveraged to take advantage of external opportunities. For example, if BAKAMLA has advanced monitoring technology, this can be applied to improve supervision of violations of the law at sea (Nurdin and Baharuddin, 2023).

Weakness and Threat Matching: Identify ways to address performance-threatening international weaknesses. This strategy includes ways to improve personnel competence or increase the number of personnel in the field to cope with the increasing incidents (Lumaksono et al., 2020).

Decision Making Stage. At this stage, the results of the SWOT analysis will be used to formulate the right strategic strategy. This may involve using a QSPM (Quantitative Strategic Planning Matrix) matrix to prioritize identified strategies based on the weights and rating values of each of the factors analyzed. QSPM will help in determining which strategies should be prioritized to increase the effectiveness of BAKAMLA in maintaining marine security (Bagaskara and Rohmadi, 2024).

RESULTS OF ANALYSIS AND DISCUSSION

ANALYSIS RESULTS

The results of the Pearson correlation test using NVIVO Based on figure 4.1, it can be seen that the correlation of the answer based on *the Pearson correlation coefficient* value, the largest is the correlation between Utomo and Panungkunan with a value of 0.91. This shows that the close relationship between dependent and independent variables is very strong. While the smallest correlation is the correlation between Utomo and Budiman with a value of 0.74, this shows the close relationship between the dependent and independent variables is strong (Nugroho, 2005). Overall, *the Pearson correlation coefficient* value shows a value between 0.83-0.98, this shows that the relationship between the dependent and independent variables is strong in this study is strong to very strong.

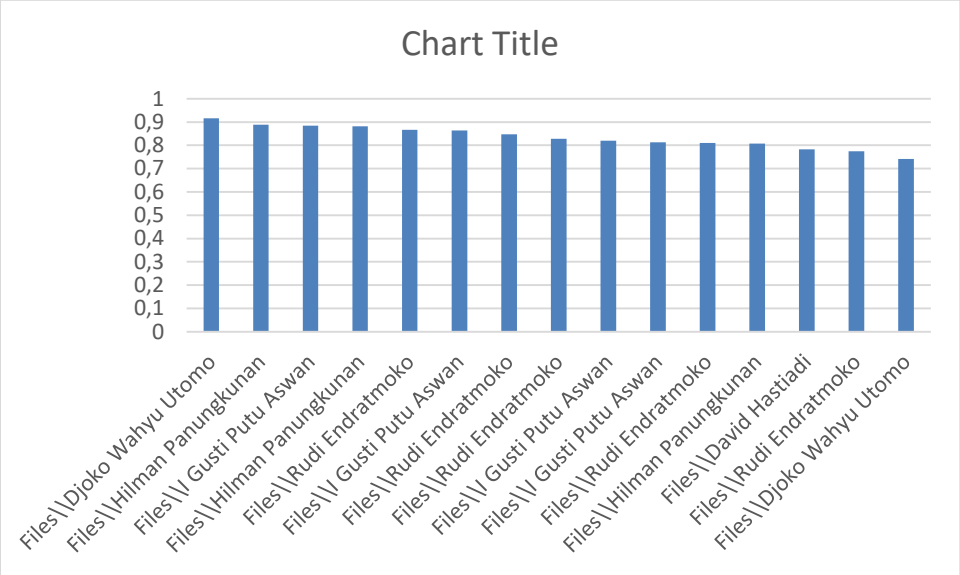

Figure 4.1: Perason correlation diagram NVivo12.
Source : Processed Researcher, 2024

Figure 4.2 containing the Project Map Visualization on the NVivo device shows that all informants place strong emphasis on the issue of the number of personnel as the main concern. This reflects the collective view of stakeholders that the number of personnel currently available is insufficient to secure large areas of water. These findings are consistent with studies conducted by Bagaskara and Rohmadi, who also used NVivo for data mapping in the context of media analysis (Bagaskara and Rohmadi, 2024).

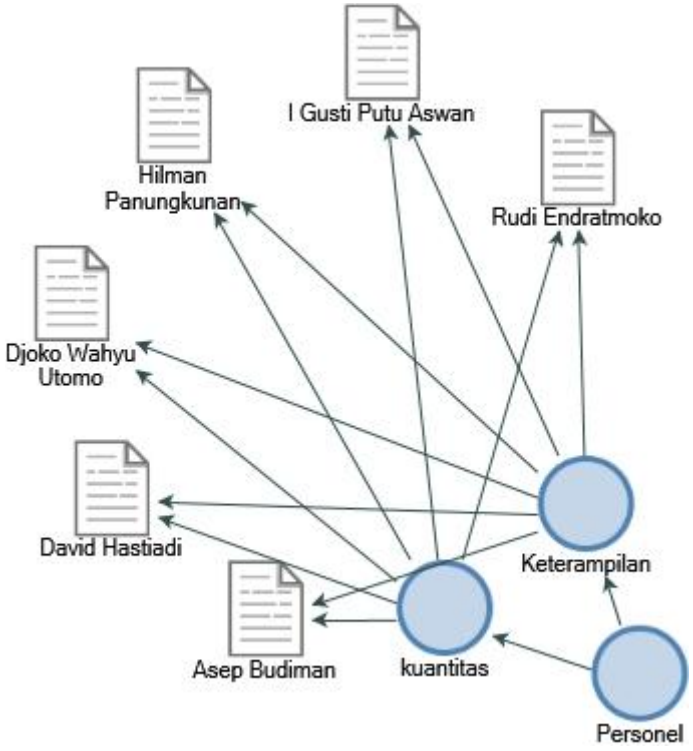

Figure 4.2: Personnel Project map

Source : Processed Researcher, 2024

In addition to quantity, a number of informants also highlighted the importance of improving personnel skills. This indicates that the increase in capabilities does not only depend on the number, but also on the quality and competence of human resources owned. Strengthening this capacity is key to supporting operational effectiveness. Research conducted by Nurdin and Baharuddin also emphasized that competencies and capabilities play a very important role in achieving organizational goals, especially in the context of development (Nurdin and Baharuddin, 2023). Therefore, the focus on improving the quality of personnel through a continuous strategy of recruitment, training, and professional development is the basis for compiling recommendations to strengthen the performance of the western zone of Bakamla RI.

Table 4. 1 Law Enforcement at Sea Recapitulation 2023

Source : Bakamla, 2023

Based on the data in Table 4.1, based on data on the incidence of marine security disturbances recorded in the West Zone area of BAKAMLA RI during 2023, there were 253 cases recorded which reflect the high intensity of threats in the region. Of all categories, illegal fishing cases occupy the highest position with 44 cases, followed by drug smuggling with 39 cases, as well as human trafficking and animal smuggling, with 34 cases each. In addition, there were also 32 cases of goods smuggling, 18 cases of liquor smuggling, and 13 territorial violations, reflecting the still weak control of cross-border activities and surveillance of maritime areas. Other crimes such as illegal fuel and illegal mining occurred in 10 cases each, while cases of theft, robbery, and document violations occurred in smaller numbers. This fact shows that the work area of BAKAMLA RI West Zone faces serious challenges that are not only quantitative, but also complex in terms of crime characteristics. Therefore, the strategy of strengthening capacity, both in terms of personnel and the surveillance system, is crucial in maintaining national marine stability and security.

Personnel are a vital element in determining the success of an organization, especially in the context of maritime security institutions such as Bakamla that face operational challenges in large, complex, and dynamic marine areas. Based on the results of observations and interviews with a number of key informants, it was identified that personnel aspects, both in terms of quantity, skills, and productivity, play a strategic role in supporting the effectiveness of organizational tasks and functions. Currently, BAKAMLA only has 48% of the ideal number of personnel needed. This 58% shortfall has the potential to have an impact on increased workloads and slow responses to maritime threats, as well as a disproportionate division of tasks Haq et al. (2022). This shortage has an impact on increased workloads, disproportionate division of tasks, and decreased response to maritime threats. On the other hand, the informants also emphasized the importance of personnel skills in operating modern technologies such as radar, AIS, drones, and digital monitoring systems. Skills in operating modern technologies, such as radar and digital surveillance systems, are essential. Personnel need to have good analytical skills and speed in acting when dealing with violations at sea. The presence of a quality team is also important for adaptation to the operational challenges faced by BAKAMLA

Putri (2022). In addition, the ability of personnel to produce an adequate volume of work reflects high productivity which helps accelerate the achievement of organizational targets. Adequate work volume and the ability of personnel to adapt to the operational environment can reflect high productivity, which in turn contributes to the organization's targets. Regular training and competency development are important factors in ensuring that personnel can meet the demands of Romadona and Setiawan's (2020) work.

Figure 4.3: Word Cloud Personnel
Source : Processed Researcher, 2024

One of the main strengths that BAKAMLA has is the use of advanced technology that supports real-time and effective marine surveillance. Technologies such as radar, drones, and AIS (Automatic Identification System) systems allow BAKAMLA to monitor large areas of water more efficiently. In addition, the existence of human resources (HR) who are trained in the operation of maritime technology is an additional strength in carrying out supervisory tasks. BAKAMLA's commitment to continuously update and develop technological capabilities is also an important factor that supports operational effectiveness (Randriany et al., 2020; Sari et al., 2021).

However, BAKAMLA faced several weaknesses that affected its performance. One of the main drawbacks is the lack of a number of personnel that match the ideal needs of the organization, with only 48% of the number of personnel needed (Witarini and Gorda, 2023). This leads to a high workload for existing personnel, which in turn can affect the speed and effectiveness of responses to threats. In addition, even though the technology already exists, not

all operational areas are equipped with adequate infrastructure, especially in border areas or outermost islands, which are still a vacant point in supervision (Asep, 2023).

BAKAMLA has various opportunities that can be used to improve its performance. One of the biggest opportunities is the advancement of global maritime technology, such as the use of autonomous drones and artificial intelligence (AI), which can strengthen surveillance capacity (Faridah & Yoeliastuti, 2024). International cooperation also provides great opportunities to increase BAKAMLA's capacity, both through equipment grants, training, and joint patrols. In addition, government support for digital transformation in the maritime defense sector further increases opportunities for BAKAMLA to expand and develop its operational capacity (Malaikosa et al., 2022).

BAKAMLA is also faced with various external threats that can hinder the achievement of optimal performance. One of the main threats is cyber threats to information and communication systems that are increasingly vulnerable to attacks (Asep, 2023). Increasingly sophisticated maritime crimes, including the use of technology such as AIS spoofing or smuggling with drones, are a major challenge that must be faced (Faridah & Yoeliastuti, 2024). In addition, dependence on imported technology that is vulnerable to geopolitical disruption or technological embargo is also a threat that can affect the operational continuity of BAKAMLA (Randriany et al., 2020).

Figure 4.4: Word Cloud Influencing Factors

Source : Processed Researcher, 2024

Strategy involves the use of resources to achieve predetermined goals (Goodpaster, 1969). Human resources (HR) are a fundamental component in supporting the effectiveness of technology within the Maritime Security Agency of the Republic of Indonesia (BAKAMLA). In the face of increasingly complex marine security challenges, BAKAMLA's performance improvement strategy from the personnel side is directed at increasing technical capacity,

professionalism, and adaptability to the latest technological developments. Here are the results of the interview

Technology-Based Technical Training and Certification. As conveyed by Djoko Wahyu Utomo and David Hastiadi, BAKAMLA personnel are required to have high technical competence in the operation of modern equipment such as coastal radar, maritime drones, C4ISR systems, and satellite communication devices. Routine technical training is carried out for drone operators, communication technicians, intelligence data analysts, and AI-based monitoring system operators. In the long term, national certification in the field of cybersecurity and maritime technology needs to be used as a standard for personnel competence.

Capacity building through education partnerships. BAKAMLA also encourages collaboration with universities, research institutes, and international training institutions. As explained by I Gusti Putu Aswan Candra, this collaboration includes technology transfer programs, joint training, and maritime technology internship programs. This move not only enhances the knowledge of personnel, but also broadens their global horizons in the face of cross-border maritime security challenges.

Adaptation of Personnel to Integrated Information Systems. Strengthening command and control systems requires personnel who are able to work in a real-time information-based environment. The ability to interpret data from various sensors (radar, AIS, satellites, drones), manage intelligence information, and respond quickly to incidents is a continuously improved competency. BAKAMLA built the Maritime Security Information Center (MSIC) as a control center supported by personnel with a background in information technology and data analytics.

Personnel Readiness in Cybersecurity and Information. With the increasing threat of cyberattacks, personnel are also being trained to maintain the security of strategic networks and information. The implementation of firewalls, military encryption, and cyber defense SOPs requires personnel to understand the basic principles of information security. This capability is important to protect BAKAMLA's operational system from sabotage or data manipulation by external parties.

Placement and Rotation of Personnel Based on Technology Competency. Along with the deployment of technology to various units and work areas, the rotation and placement of personnel is also carried out based on competence and technical readiness. BAKAMLA's class 1 ships that have been equipped with UAV systems and digital information, as mentioned by Rudi Endratmoko, are operated by crews who have high technical capabilities and have gone through special selection and training.

Table 4.2 SWOT Table West Zone of Bakamla RI

Aspects	Factor
Strengths	- Use of advanced technologies: radar, drones, and AIS. - Real-time and efficient marine surveillance. - High work ethic of personnel. - Commitment to continue to develop technological capabilities.
Weaknesses	- The number of personnel is only 48% of the ideal requirement. - High workload and risk of decreased responsiveness. - Infrastructure is not evenly distributed, especially in the border areas/outermost islands.
Opportunities	- Global technological developments: autonomous drones and AI.

Aspects	Factor
	- International cooperation: grants, training, joint patrols. - Government support in the digital transformation of maritime defense.
Threats	- Cyber threats to information and communication systems. - Advanced maritime crimes: AIS spoofing, smuggling via drones. - Reliance on imported technology that is vulnerable to embargo/geopolitics.

Source : Processed Researcher, 2024

Based on the results of interviews with informants related to strategies in accordance with Table 4.2 and figure 4.5, the following are the formulations of strategies that can be applied to harness strengths, overcome weaknesses, take advantage of opportunities, and reduce threats:

a. S-O (Strengths-Opportunities) Strategy:
   1) Optimization of trained human resources for the adoption of new technologies: With personnel already having basic technical training, BAKAMLA can more quickly implement global maritime technologies such as autonomous drones and AI.
   2) Increased training collaboration with international partners: Use the strength of professional human resources to establish technical training cooperation with partner countries (e.g. USCG, Japan, Australia).
   3) Develop maritime technology training centers: Leverage government support in digital transformation to build national training facilities for marine security technology personnel.

b. W-O (Weaknesses-Opportunities) Strategy:
   1) Acceleration program for recruitment and education of technological human resources: Addressing the shortage of personnel by recruiting young people through maritime technology-based education programs.
   2) Technology transfer through international cooperation: Address the skills limitations of personnel in remote areas by bringing in training from overseas partners, including through overseas internship programs.
   3) Development of e-learning and remote training: Leveraging advances in digital technology to reach personnel in locations that do not yet have physical training facilities..

c. S-T (Strengths-Threats) Strategy:
   1) Capacity building of human resources in cybersecurity: Use technology-certified personnel to safeguard communication and data systems from cyber threats.
   2) Strengthening of intelligence data analysis by trained personnel: With skilled human resources in data processing, threats such as AIS spoofing can be detected faster through AI and pattern recognition.
   3) Improved operational discipline based on digital SOPs: Ensuring personnel follow fixed technology-backed procedures to address advanced technological threats at sea.

d. W-T (Weaknesses-Threats) Strategy:
   1) Proportionate distribution of technology human resources: Avoid concentrating personnel at the center only, so that vulnerable border areas are monitored by competent personnel.
   2) Regular auditing and mapping of cyber and technology training needs: Identifying personnel competency gaps to then close with the latest risk- and threat-based training.

3) Personnel rotation system with minimal technology provision: Reduce the disparity in technological capabilities between regions with a rotation program accompanied by basic training before deployment.

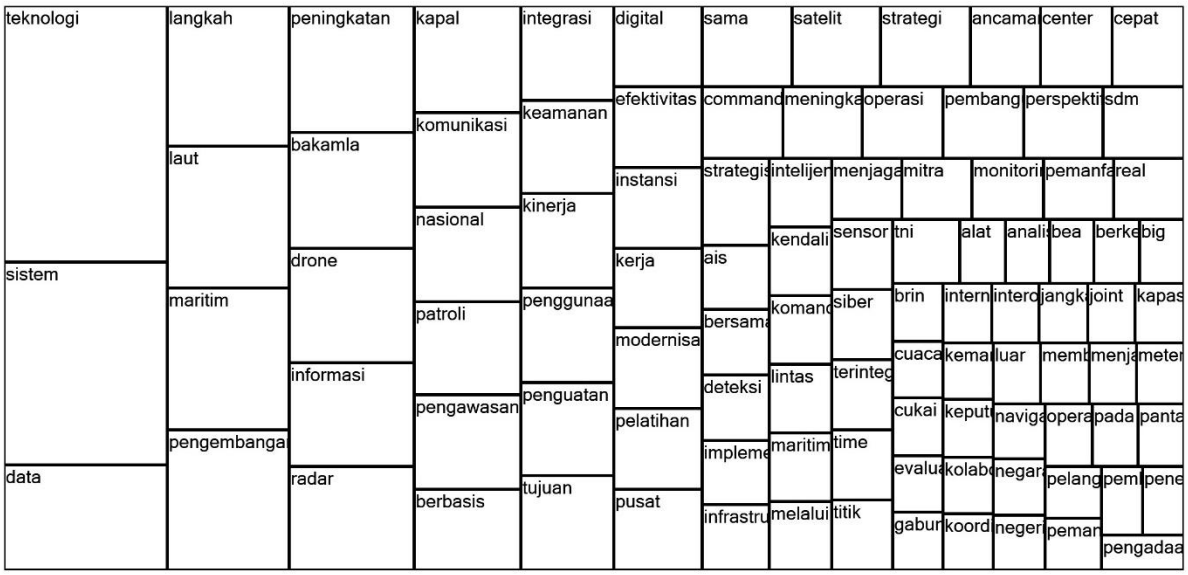

Figure 4.5: *Strategy Treemap*
Source : Processed Researcher, 2024

DISCUSSION

Based on the results of the analysis, BAKAMLA currently only has 48% of the ideal number of personnel needed. These shortages have the potential to lead to excessive workloads on existing personnel, as well as affect the speed of response to increasingly complex maritime threats. Management theory asserts that effective organizing requires a proportionate distribution of tasks, which can only be achieved if there is a sufficient number of personnel (Sudiro et al., 2022). The shortage of personnel also has implications for BAKAMLA's inability to maximize operational potential and complete tasks optimally. Research by Haq et al. (2022) also shows that personnel shortages can hinder organizational efficiency, particularly in terms of coordination and execution of complex tasks in large areas of water. Therefore, the shortage of personnel quantity is a major challenge to the operational effectiveness of BAKAMLA in maintaining maritime security.

In addition to quantity, the quality of personnel at BAKAMLA is also a key factor that supports operational success. The results of the analysis show that skills in operating modern technologies such as radar, AIS, drones, and digital surveillance systems are needed by personnel. HR theory posits that technical competence and individual skills are the main determinants in the high performance of an organization (Yolanda et al., 2022). Therefore, the quality of trained personnel is very important to deal with the dynamics of increasingly sophisticated maritime threats. Research by Romadona & Setiawan (2020) also underlines the importance of continuous training in improving personnel competencies, in order to maintain operational effectiveness. Without adequate skills, even if the number of personnel is sufficient, they will not be able to face the challenges that exist effectively. Therefore, the development of

personnel quality through technical training and competency development must be a priority to improve BAKAMLA's performance.

Based on the SWOT analysis that has been carried out, several strategic factors that affect the performance of BAKAMLA and the Barelang Police Satpolairud can be identified. The main strength possessed by the Barelang Police Satpolairud is the use of advanced technology such as radar, drones, and AIS that allow real-time and more efficient sea surveillance. In addition, another advantage lies in the quality of human resources (HR) who are trained in operating maritime technology necessary in surveillance and law enforcement at sea. BAKAMLA's commitment to continue to develop technology and improve human resource capabilities is also a force that supports operational effectiveness. This is in line with research conducted by Randriany et al. (2020) and Sari et al. (2021) which states that the continued development of maritime technology capabilities is crucial in strengthening marine surveillance.

However, BAKAMLA and the Barelang Police Satpolairud face several weaknesses that can affect their performance. One of them is the shortage of personnel which only reaches 48% of the ideal number needed. This shortage causes existing personnel to be burdened with many tasks, potentially reducing the effectiveness of responses to maritime threats. Research by Witarini & Gorda (2023) also shows that a shortage of personnel is a significant obstacle in carrying out complex surveillance tasks over large areas of water. In addition, although technology is readily available, uneven infrastructure, especially in border areas or outermost islands, poses a challenge to operational effectiveness. This lack of infrastructure causes several vulnerable areas to not be properly monitored, which is in line with the findings of Asep (2023) which revealed that remote areas in Indonesia are still a blank spot in maritime surveillance.

Related to opportunities, there are several aspects that can be utilized by BAKAMLA to increase their supervisory capacity. One of the biggest opportunities is global technological advancements, such as the use of autonomous drones and artificial intelligence (AI), which can significantly strengthen marine surveillance capacity (Faridah & Yoeliastuti, 2024). International cooperation in the form of equipment grants, training, or joint patrols also provides a great opportunity to increase BAKAMLA's operational capacity. This is in line with the government's growing support for the digital transformation of the maritime defense sector strengthened by Malaikosa et al. (2022). BAKAMLA must take advantage of this opportunity to continue to develop its technology and increase synergy with international institutions.

However, on the other hand, there are external threats that BAKAMLA must face, one of which is cyber threats to information and communication systems that are increasingly vulnerable to attacks (Asep, 2023). This threat can disrupt surveillance systems that have been built with advanced technology. In addition, increasingly sophisticated maritime crimes, such as AIS spoofing or smuggling using drones, are a major challenge in maintaining maritime security. Research by Faridah & Yoeliastuti (2024) confirms that the technology used by maritime crime perpetrators is also developing, so BAKAMLA must always be adaptive in dealing with this threat. In addition, dependence on imported technology is also a threat that must be watched out, especially related to the possibility of geopolitical disruptions or technological embargoes that can hinder the operational continuity of BAKAMLA (Randriany et al., 2020). Therefore, BAKAMLA needs to improve technological resilience by developing domestic solutions and strengthening its cybersecurity systems to reduce these potential threats

S-O (Strengths-Opportunities) Strategy. The S-O strategy focuses on utilizing BAKAMLA's internal strengths in the form of trained human resources and the use of advanced technology, as well as taking advantage of external opportunities such as maritime technology

advances and international cooperation. The advantage is that, with human resources already having basic training, BAKAMLA can more quickly implement new technologies such as autonomous drones and AI, which are indispensable for more efficient maritime surveillance. In addition, increased collaboration with international partners allows BAKAMLA to accelerate the development of personnel capacity through technical training. The development of a maritime technology training center that supports digital transformation will strengthen BAKAMLA's supervisory capacity. However, the downside of this strategy is the high cost and time required to build training centers and run international collaborations, which can divert the budget from other, more urgent needs. In addition, adaptation to new technologies may require changes to existing operational procedures, which may affect the smooth running of operations in the short term.

W-O (Weaknesses-Opportunities) Strategy. The W-O strategy offers a solution to overcome the shortage of BAKAMLA personnel by taking advantage of opportunities that exist outside the organization. One of its advantages is that through the recruitment acceleration program and human resource education based on maritime technology, BAKAMLA can immediately overcome the shortage of personnel by attracting skilled young workers. In addition, the strategy also offers benefits through technology transfer and training from international partners, which can provide invaluable practical experience for personnel, especially in remote areas that lack training facilities. The development of e-learning and remote training is a great opportunity to reach personnel in hard-to-reach locations, thereby minimizing training inequities across the region. However, the drawback lies in infrastructure challenges in some regions that may not yet fully support remote training. In addition, a fast recruitment and training process also takes time to ensure a high enough quality of personnel, which can hinder a quick response in crisis situations.

S-T (Strengths-Threats) Strategy. The S-T strategy leverages the power of advanced technology and trained human resources to deal with external threats such as cyberattacks and increasingly sophisticated maritime crimes. The advantage is that by increasing the capacity of human resources in cybersecurity and strengthening intelligence data analysis, BAKAMLA can detect threats such as AIS spoofing faster. Strengthening operational discipline based on digital SOPs also helps ensure that personnel follow standardized, fixed procedures, thereby reducing the likelihood of human error. However, the shortcoming of this strategy lies in the great need for training and advanced technology to increase the capacity of human resources in dealing with cyber threats, which require a significant investment. In addition, changes in operational procedures and adaptation to digital SOPs can take time and patience, especially for personnel who are not familiar with high-technology-based systems.

W-T (Weaknesses-Threats) Strategy. The W-T strategy focuses on solving the problems of personnel shortages and threats faced by BAKAMLA by distributing human resources evenly and minimizing skills disparities between regions. The advantage is that the proportionate distribution of human resources ensures that vulnerable areas such as borders remain monitored by trained and competent personnel. Personnel rotation systems can also help to reduce differences in technological capabilities between regions by providing basic training prior to deployment. Regular auditing and mapping of training needs helps maintain personnel competencies to keep up with the latest threats. However, the shortcomings lie in the logistical challenges of distributing personnel to more hard-to-reach areas, as well as the impact of personnel rotation that can disrupt operational stability and adaptation to new field situations.

Selected Strategy: W-O (Weaknesses-Opportunities) Strategy. The W-O strategy was chosen as the most suitable solution to address the problem of personnel shortages at

BAKAMLA while taking advantage of existing external opportunities. By focusing on accelerating recruitment and education of maritime technology-based human resources, BAKAMLA can quickly fill the shortage of personnel without sacrificing quality. In addition, technology transfer through international cooperation and e-learning development can help reach personnel in remote areas without having to rely on limited physical infrastructure. Despite the challenges in terms of infrastructure and training time, the strategy offers a more sustainable and adaptive long-term solution to technological developments and maritime threats. Thus, the W-O strategy has the potential to increase BAKAMLA's overall operational capacity and strengthen Indonesia's maritime surveillance in the future.

CONCLUSION

Based on the results of research, data analysis, and discussion of the performance of the western zone of Bakamla RI, especially in the personnel aspect, it can be concluded that the following things can be concluded:

1. The condition of the Personnel of the West Zone of Bakamla RI is not optimal.
   The condition of personnel in the West Zone of Bakamla RI is currently facing quite significant challenges, especially related to the number of personnel which only reaches 48% of the ideal needs. These shortages lead to a high workload for existing personnel, which has an impact on decreased effectiveness and responsiveness in the face of maritime threats. Nonetheless, the available human resources are already trained in the use of advanced maritime technologies, such as radar, AIS, and drones, which make a positive contribution to surveillance and operational capabilities. This shows the importance of focusing on strengthening personnel capacity and fulfilling the ideal number to ensure optimal performance in the Western Zone.
2. Factors Affecting Personnel Competencies and SWOT Analysis.
   The competence of personnel in the Bakamla West Zone is influenced by several main factors, including the lack of adequate personnel, the limitations of uniform training in all regions, and the challenges in adapting new technologies in several locations. The SWOT analysis shows that Bakamla's main strength lies in the use of advanced technology and trained human resources, but its weaknesses lie in the lack of personnel and infrastructure inequality in some remote areas. On the other hand, great opportunities come from global technological advancements, such as the use of autonomous drones and artificial intelligence, as well as the potential for international cooperation. However, increasingly sophisticated cyber threats and maritime crime can be major obstacles that require rapid personnel upgrades.
3. Selected Strategy in Strengthening the Performance of the Western Zone of Bakamla RI.
   The strategy chosen to strengthen the performance of the Bakamla Western Zone is the W-O (Weaknesses-Opportunities) strategy, which aims to overcome the shortage of personnel and improve competencies through maritime technology-based recruitment and training acceleration programs. This strategy takes advantage of opportunities that exist outside of Bakamla, such as technological advances and international cooperation, to accelerate the process of education and knowledge transfer. In addition, the development of e-learning and distance training will help reach personnel in remote areas, reducing inequality in competencies between regions. By implementing this strategy, Bakamla can increase operational capacity

and ensure that personnel are ready to face the increasingly complex maritime surveillance challenges.

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