



EFFECTIVENESS OF WORKSHOPS IN SUPPORTING THE SMOOTH RUNNING OF SHIPPING NAVIGATION AID FACILITIES IN THE WORKING AREA OF THE TYPE A CLASS I BITUNG NAVIGATION DISTRICT

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Abstract

This study aims to analyze the effectiveness of workshop operations in supporting the smooth operation of Navigation Aids (SBNP) in the working area of Bitung Class I Type A Navigation District and to identify factors that influence its effectiveness. This study uses a qualitative approach with a focus on analyzing the effectiveness of public organizations through input, process, output, and outcome aspects. Data collection was conducted through interviews, observations, and documentation of related parties in Bitung Class I Type A Navigation District. Data analysis was conducted descriptively by interpreting the relationship between technical, administrative, and managerial aspects in workshop operations. The results of the study indicate that the effectiveness of workshops in supporting the smooth operation of SBNP has not been running optimally. The main obstacles include limited competence and number of technical human resources, inadequate work facilities and equipment, limited operational budget, and suboptimal coordination and preventive maintenance systems. Nevertheless, workshops still have a strategic role in supporting the readiness of navigation facilities and shipping safety in the working area of Bitung Class I Navigation District. This study concludes that increasing workshop effectiveness requires strengthening human resource capacity, modernizing supporting facilities, increasing budget allocation, and improving the coordination system and operational management on an ongoing basis.

Keywords: effectiveness, workshop, SBNP, public administration, navigation safety, Bitung Navigation District.

INTRODUCTION

Workshops, as operational support units in the maritime sector, play a very strategic role in supporting the smooth operation of the Navigation Guidance and Service System (SBNP). Within the framework of public administration, the effectiveness of public services is highly dependent on the quality of supporting facilities owned by public organizations, including technical workshops. This study cites that "according to Henry (2015), public administration aims not only to organize bureaucracy, but also to ensure that all organizational resources are used optimally to meet public service objectives." In the maritime context, workshops function to ensure that navigational instruments, sea signs, and other safety facilities are always in prime operational condition so that the SBNP can operate according to shipping safety standards. This is in line with Law of the Republic of Indonesia Number 17 of 2008 concerning Shipping, which emphasizes the importance of safety and smooth shipping traffic as a state responsibility. Ideally, workshops are required to have competent human resources, complete equipment, and standard maintenance and repair procedures so that all SBNP facilities can function smoothly. "Public service theory emphasizes that the smooth running of the service process depends on the continuity of reliable technical support functions (Denhardt & Denhardt, 2015)." Empirical data from the Directorate General of Sea Transportation shows that technical failure of navigation equipment can cause significant disruption to ship operations and increase the risk of maritime accidents. Ideal conditions also include compliance with technical standards and maritime safety regulations. The World Commission on Environment and Development (1987) emphasized the importance of sustainable resource management, including technical facilities, in the maritime sector.

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An ideal workshop would adhere to international guidelines such as MARPOL and UNCLOS, which emphasize compliance with safety procedures and environmental management. Steers (1985) emphasized that the effectiveness of a public organization depends on internal coordination, operational capacity, and the alignment of support unit functions with organizational objectives. Therefore, in the context of the Bitung Class 1 Type A Navigation District, the workshop must be able to fulfill its strategic role as operational support, maintain shipping safety, improve administrative efficiency, and comply with national and international standards. Normatively, workshop operations have a clear legal basis. "The 1945 Constitution of the Republic of Indonesia affirms the state's responsibility in providing effective and safe public services." Law Number 17 of 2008 concerning Shipping emphasizes the government's obligation to provide adequate navigation facilities and infrastructure for shipping safety. "The authority of the Bitung Class 1 Type A Navigation District in managing navigation facilities, including workshops, is regulated in Ministerial Regulation Number 2 of 2024, which includes the preparation of operational plans, procurement, supervision of SBNP, and maintenance of base and workshop facilities." In addition to national regulations, international standards such as MARPOL 73/78 and UNCLOS 1982 are important references in workshop operations, because compliance with these standards ensures shipping safety while strengthening the legal legitimacy of workshop activities in a global context.

However, based on observations and secondary data, workshop operations in the Bitung Class A Navigation District currently face various challenges that impact the smooth operation of the SBNP. Data from the Directorate General of Sea Transportation's Performance Report (Ministry of Transportation, 2021) shows that maintenance frequency is often not as scheduled due to limited expertise and support fleet, resulting in prolonged downtime for some navigation equipment. This creates a significant gap between the ideal conditions stipulated in policies and regulations and the operational reality on the ground, in line with the theory of public organization effectiveness, which emphasizes the alignment of input, process, and outcome (Steers, 1985). Workshop capacity in terms of human resources is also a factor influencing operational effectiveness. Armstrong (2014) emphasized that human resource competency is a key factor in the success of public organizations, particularly in complex technical contexts such as navigation system maintenance. Empirical data shows that the number of available technicians is still limited and does not always have the specific competencies for all types of SBNP equipment.

As a result, some SBNP equipment experiences delays in repairs, impacting the quality of navigation services provided to merchant vessels and fishing vessels in the Bitung work area. Workshop facilities and infrastructure, including operational vehicles and repair tools, are also limited. Field observations indicate that some repair equipment is outdated and requires replacement or modernization to support rapid and precise repair of SBNP. According to Pollitt & Bouckaert (2017), inadequate facility and infrastructure capacity can be a serious obstacle to achieving the effectiveness of public organizations. Empirical data from the field indicates that this limitation forces workshops to prioritize work selectively, resulting in some navigation facilities receiving less attention. For example, beacons at several vulnerable shipping points could not be repaired in a timely manner due to a lack of adequate spare parts and test equipment. Other issues that arise relate to internal coordination and administrative procedures. Denhardt & Denhardt (2015) emphasize that the effectiveness of public administration depends on the integration of planning, coordination, and implementation in the field. In the Bitung Navigation District, although maintenance Standard Operating Procedures (SOPs) exist, their implementation has not been fully consistent, particularly in terms of real-time monitoring and reporting of technical problems. The SBNP maintenance planning process is sometimes out of sync with ship operating schedules, resulting in time conflicts and reduced operational efficiency.

Operational budget constraints also impact workshop inefficiency. Data from the Directorate General of Sea Transportation's Performance Report (2021) shows that budget allocations are often divided between routine maintenance, incidental repairs, and spare parts procurement, forcing some preventive maintenance activities to be postponed. Pollitt & Bouckaert (2017) emphasize that adequate budget availability is a crucial prerequisite for the success of technical units in public organizations. This budget constraint results in several SBNP navigation facilities not being maintained to standards, potentially compromising navigation safety in Bitung waters. For example, disruption to a single beacon in the Lembeh Strait shipping lane can force merchant vessels to reduce speed or change routes, impacting logistical efficiency and increasing the risk of accidents. Overall, technical, administrative, and resource constraints indicate ineffective workshop operations. This gap between ideal conditions and operational reality has a direct impact on the overall performance of the Navigation District, particularly in terms of the smooth operation of the SBNP and

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navigation safety. The theory of public organization effectiveness emphasizes that internal and external obstacles must be systematically analyzed to improve the performance of support units (Henry, 2015; Steers, 1985). This condition provides a strong basis for the need for research to identify inhibiting factors and formulate measurable improvement recommendations to increase the effectiveness of workshops in supporting the smooth operation of SBNP in the work area of Bitung Class I Type A Navigation District.

METHOD

This study uses a descriptive qualitative approach, chosen because it is able to provide an in-depth, holistic, and contextual understanding of the effectiveness of workshop operations in supporting the smooth operation of Shipping Navigation Aids (SBNP). This approach does not focus on hypothesis testing or statistical generalization, but rather on exploring the meaning behind the phenomena that occur in the field, as well as a comprehensive understanding of the factors that influence workshop performance ranging from technical aspects, human resources, infrastructure, to inter-unit coordination. This study was conducted in Bitung City, North Sulawesi Province, with the research site being officers in the Bitung Class I Type A Navigation District, because this work unit is the main executor of SBNP management which includes operational planning, maintenance, supervision of navigation aids, and workshop management as a technical support unit. The researcher acts as a key instrument, while data sources are obtained purposively and snowball from competent informants such as the Head of SBNP and Fleet, Head of Fleet Section, Head of Workshop Installation, Head of Machinery and Equipment Unit, and Staff of Fleet and SBN, supplemented by data on places, events, and supporting documents.

The focus of this research is directed at workshop operations in supporting the smooth running of the SBNP, which is then broken down into four sub-focuses or main indicators to measure effectiveness, as well as one additional sub-focus to identify influencing factors. The first indicator is workshop operational performance, which assesses the extent to which routine maintenance and incidental repairs of the SBNP are carried out according to operational procedures and standards, including timeliness, quality of work results, and responsiveness to damage. The second indicator is the readiness of workshop facilities and infrastructure, which examines the availability, suitability, and adequacy of tools, machines, supporting technical facilities, including work equipment, test rooms, storage warehouses, and the availability of spare parts. The third indicator is the capacity and competence of workshop human resources, which evaluates the number, qualifications, skills, and experience of technical personnel in handling maintenance and repair of SBNP equipment, including training and capacity building that has been carried out. The fourth indicator is coordination between related units and agencies, which examines how the workshop interacts with the navigation unit, Navigation District management, and other supporting agencies in terms of communication, procurement of spare parts, and handling of SBNP equipment damage. In addition to these four indicators, this study also identified factors that influence workshop effectiveness, which were analyzed based on the results of interviews and field observations.

Data collection techniques were conducted in three ways, namely structured interviews using interview guidelines compiled based on the research sub-focus, field observations of work processes, physical conditions of the workshop, equipment, and SBNP maintenance activities, as well as documentation including laws and regulations, activity reports, photographs, and internal records related to workshop operations. Data analysis used the interactive model of Miles, Huberman, and Saldaña which consists of four stages: data collection through interviews, observations, and documentation; data condensation, namely the process of selecting, simplifying, and transforming data obtained from field notes; data presentation (data display) in the form of narrative text and tables to facilitate understanding; and conclusion drawing and verification (conclusion drawing/verifying) based on findings in the field. To ensure the validity of the data, this study applies four criteria, namely credibility (internal validity) through source triangulation, peer debriefing, and member check; dependability (dependability) to test the consistency of research results; transferability (transferability) so that research results can be applied in other similar contexts; and confirmability through audit trials to ensure that the findings truly correspond to the real situation in the field. With this systematic and comprehensive methodological approach, the research is expected to produce valid, reliable, and useful findings for the development of the SBNP maintenance system and increasing the effectiveness of workshops as technical units supporting shipping safety in the working area of the Bitung Class I Type A Navigation District.

RESULTS AND DISCUSSION

1. Workshop Operational Performance

Workshop operational performance in terms of workshop effectiveness in supporting the smooth operation of SBNP in the Bitung Class I Type A Navigation District work area shows that in general the implementation of equipment maintenance and repair has been carried out, but has not run optimally. This is evident from the continued ineffectiveness in the timeliness of SBNP equipment maintenance and repair. Based on the interview results, informant SL stated that "the implementation of workshop operational performance in the maintenance and repair of SBNP equipment has basically been running in accordance with established procedures. We have a routine schedule for conducting periodic checks and maintenance on equipment such as beacons and buoys. However, in its implementation there are still obstacles, such as delays in the delivery of spare parts and unfavorable weather conditions, so that some jobs cannot be completed on time."

Delays in spare parts availability, site access constraints, and weather factors are the main obstacles preventing the repair process from being carried out on schedule. This condition has resulted in increased downtime for SBNP equipment, which ultimately can disrupt the smooth functioning of shipping navigation in the region. In addition to the issue of punctuality, the quality of the workshop's work is also not fully optimal. This is influenced by limited available work equipment, the condition of the equipment is aging, and differences in the level of technician competence in handling various types of SBNP equipment damage. Informant FR explained that "in general, the workshop's operations are quite good at handling SBNP equipment damage, especially for minor to moderate damage. The technical team strives to respond to every report quickly, but sometimes we face limitations in manpower and work equipment that is not yet fully modern. This causes the repair process for more complex damage to take longer than planned."

The operational performance of the workshop in supporting the smooth running of the SBNP can basically be explained through the concept of public organization performance proposed by Mahsun (2016) and Mardiasmo (2018), namely the organization's ability to carry out tasks effectively and efficiently and produce outputs and outcomes that impact public services. In this context, the workshop as a technical unit is not only measured by the amount of maintenance and repair work carried out, but also by the extent to which the results of this work are able to ensure the optimal functioning of SBNP facilities and support shipping safety. This is in line with the view of Pollitt & Bouckaert (2017) that the performance of public organizations must be seen from the implementation of policies and the actual results produced, not just mere administrative activities.

Based on Steers' (1985) theory of organizational effectiveness, workshop operational performance is largely determined by the organization's ability to manage inputs, processes, and outputs in a balanced manner. Inputs in the form of human resources, infrastructure, and budget significantly impact work processes such as routine maintenance and repair of navigation facilities. If there are limitations in any of these components, the workshop's operational processes will be disrupted and impact the effectiveness in supporting the SBNP. This is relevant to field conditions where limited human resources, work tools, and spare parts are the main inhibiting factors for workshop performance. Another problem lies in the limitations of human resources and workshop infrastructure, both in terms of the number of technical personnel and the completeness of supporting facilities. The inadequate number of technicians causes an unbalanced workload, so that some jobs are delayed or cannot be completed quickly. Informant DW added that "the implementation of workshop operational performance still needs to be improved, especially in terms of coordination and work management. Although a planning system is in place, in practice work often piles up due to the large amount of equipment that must be handled."

2. Readiness of Workshop Facilities and Infrastructure

The readiness of workshop facilities and infrastructure is a key factor that determines the effectiveness of the workshop in supporting the smooth operation of the SBNP in the Bitung Class I Type A Navigation District Work Area. Ideally, the workshop as a technical unit should be supported by complete, modern work equipment and be in good working condition so that all maintenance and repair processes for navigation facilities can be carried out quickly, accurately, and with quality. However, based on findings in the field, there are still various problems that indicate that the readiness of workshop facilities and infrastructure is not fully optimal. Informant SL stated that "in general, the

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condition of the workshop facilities and infrastructure is sufficient to support the maintenance and repair activities of SBNP equipment. We have several main pieces of equipment that are still functioning well and can be used to handle minor to moderate damage. However, for more complex work, we still face limitations in more modern equipment, so sometimes we have to look for alternatives or wait for support from other parties." The first problem is evident in the limited and inadequate condition of work equipment. Some of the equipment used is still conventional and no longer fully compliant with current SBNP maintenance technology requirements. Furthermore, some equipment has experienced functional decline due to its long lifespan. This condition impacts the slowness of the maintenance and repair process, as well as reducing the quality of technical work produced by the workshop. FR informants confirmed that "in terms of completeness, the facilities and infrastructure available in the workshop are actually not entirely adequate. Some work equipment has been used for quite a long time and has not been updated, which affects the speed and quality of work. Furthermore, supporting facilities such as test rooms and storage areas also still need to be improved to be more organized and efficient in supporting technician activities."

Furthermore, the second problem relates to the suboptimal availability of spare parts. During operations, there are often shortages of spare parts needed for repairs to SBNP equipment. Furthermore, the lengthy procurement process leads to delays in handling damaged navigation facilities. Informant EL stated that "the current condition of the workshop facilities and infrastructure still requires significant improvement, particularly in terms of the availability of spare parts and other supporting facilities. We often encounter obstacles due to unavailability of spare parts, which delays the repair process. Furthermore, the suboptimal workshop layout also makes work less efficient, as technicians must adapt their workspaces to the existing conditions." This condition directly results in delays in the repair process and disrupts the smooth operation of SBNP in the work area. The third problem is the suboptimal workshop support facilities, such as test rooms, storage warehouses, and the workshop layout that has not been arranged efficiently. The irregular workspace layout makes the mobilization process of tools and materials less effective, thus reducing technician productivity in the work. From a public management perspective, according to Mardiasmo (2018) and Dwiyanto (2018), the availability of facilities and infrastructure is part of the resources of a public organization that must be managed efficiently and accountably to produce quality public services. The problem of delays in the procurement of spare parts and limited workshop facilities indicates inefficiencies in resource management. This is contrary to the principles of public management that emphasize fast, precise, and responsive service to public needs, in this case shipping safety through SBNP.

3. Capacity and Competence of Workshop Human Resources

The capacity and competence of the workshop's Human Resources (HR) are important factors that determine the workshop's effectiveness in supporting the smooth operation of the SBNP in the Bitung Class I Type A Navigation District Work Area. Ideally, the workshop's technical HR should be sufficient in quantity, have competencies that match the increasingly modern SBNP equipment technology needs, and be supported by a continuous capacity development system. However, in reality, various problems exist that indicate that the HR aspect remains one of the main obstacles in workshop operations. Informant FR stated that "in general, the capacity of human resources in the workshop is still limited when compared to the existing workload. The number of available technical personnel is not commensurate with the large amount of SBNP equipment that must be maintained and repaired. As a result, work often piles up, so that some maintenance activities must be postponed or cannot be carried out according to the established schedule."

The first problem is evident in the limited number of technical personnel compared to the relatively high operational workload. This situation leads to a backlog of work that cannot be completed in a timely manner, thus delaying the maintenance and repair of SBNP equipment. Consequently, the workshop's operational effectiveness decreases due to the inability to respond quickly to repair needs, which ultimately impacts the smooth functioning of SBNP in the field. DW's informant added that "in terms of workload distribution, there is actually a task arrangement among technicians, but in practice it has not been implemented optimally. This is due to the limited number of personnel, so one technician often handles several types of work simultaneously. This condition results in a lack of focus on work and has the potential to affect the quality and timeliness of work completion." The second problem is the competency gap among technicians in handling increasingly modern and complex SBNP equipment. Not all technicians have the same skills in operating or repairing high-tech equipment, resulting in inconsistent quality. This situation results in some

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repairs not meeting optimal standards, and even potentially causing re-damage over time, which of course reduces the reliability of navigation facilities. Informant SL explained that "the competency level of workshop technicians is generally good enough to handle routine work, such as basic maintenance and repair of SBNP equipment. However, for more modern and complex equipment, some technicians still have not fully mastered it. This is due to limited opportunities for more in-depth and ongoing technical training. Furthermore, the third problem is the suboptimal implementation of training and sustainable human resource capacity development. Existing training programs are still limited in frequency, not evenly distributed to all technicians, and not supported by a structured evaluation system. As a result, technician competency development is slow and uneven, resulting in less than optimal adaptation to SBNP technology developments. This impacts workshops' limited ability to face increasingly complex technical challenges. Informant LT emphasized that "in my opinion, technician competency still needs to be continuously improved to keep up with developments in SBNP equipment technology. Currently, the training provided is insufficient to support increasingly complex operational needs. A more structured, sustainable training program is needed, along with evaluation or certification so that technician capabilities can be measured and meet required standards."

4. Coordination between units and related agencies

The sub-focus on coordination between units and related agencies in the effectiveness of workshops to support the smooth operation of SBNP shows that coordination is a crucial element in ensuring the smooth operation of navigation facility maintenance. However, in practice, problems are still found in the form of a suboptimal communication system between units and related agencies, which is characterized by delays and incomplete information regarding the condition of SBNP equipment and its repair needs. Informant FR explained that "the form of coordination carried out between workshops and other units and related agencies is usually done through direct and indirect communication, such as coordination meetings, correspondence, and coordination via telephone or messaging applications. In practice, the workshop will convey the need for repair or maintenance of SBNP equipment to the relevant unit, then follow up in accordance with applicable procedures. This coordination is quite helpful in speeding up the handling process, although sometimes there are still delays in responses from related parties."

This situation causes the handling process in the field to be unresponsive, thus hampering the effectiveness of the workshop's work in maintaining the reliability of navigation facilities. In addition, the slow process of procuring spare parts due to lengthy bureaucracy is also a major inhibiting factor in inter-agency coordination. Informant SL revealed that "in implementing coordination, the main obstacle we often face is communication between units that does not always run smoothly. Sometimes information regarding repair needs or the condition of SBNP equipment is not conveyed quickly or is incomplete, thus slowing the follow-up process. This results in delays in handling damage that should be addressed immediately." This delay not only impacts the delay in the SBNP equipment repair process, but also disrupts the overall operational work rhythm of the workshop.

Furthermore, the lack of synchronization and integration of inter-agency coordination, both in work procedures and follow-up mechanisms, demonstrates the lack of a solid collaboration system in place. FR informant added that "another significant obstacle is the procurement of spare parts. The procurement process still involves a lengthy administrative mechanism and involves several parties, resulting in frequent delays in the availability of needed spare parts. As a result, repairs to SBNP equipment are delayed and cannot be completed within the expected timeframe." Differences in responses between units in handling SBNP equipment damage result in inconsistent and often delayed handling. This indicates that coordination has not been carried out in an integrated and systematic manner, thus directly impacting the workshop's effectiveness in supporting the smooth operation of SBNP.

This sub-focus of coordination can be analyzed through the policy implementation theory of Mazmanian and Sabatier (1983), which states that the success of policy implementation is largely determined by the level of coordination between implementing actors. In this context, suboptimal communication between units and related agencies indicates weaknesses in the policy implementation structure, resulting in slow and ineffective responses to SBNP improvement needs. Furthermore, James D. Thompson's organizational coordination theory (1967) explains that organizations with high inter-unit interdependence require strong coordination mechanisms, whether through process standardization, joint planning, or direct communication. In the case of the SBNP workshop, the interdependence between the technical unit,

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the navigation unit, and the spare parts procurement agency is very high, but the procedural-based coordination mechanism has not been operating efficiently.

5. Factors that Influence the Effectiveness of Workshops in Supporting the Smooth Running of SBNP

The sub-focus on factors influencing workshop effectiveness in supporting the smooth running of SBNP shows that workshop performance effectiveness does not stand alone, but is influenced by various interrelated aspects that form a complex work system. In practice, the limited and imbalanced capacity and competency of technician human resources are the main factors influencing the slow process of SBNP equipment maintenance and repair. Informant SL stated that "in my opinion, the factor that most influences workshop performance effectiveness is human resources. The limited number of technicians and differences in competency levels greatly affect the speed and quality of work. If human resources are inadequate, SBNP maintenance and repair work will be delayed and cannot be completed optimally according to the predetermined schedule." The inadequate number of workers and uneven technical capabilities lead to a backlog of work, so that some jobs must be postponed or cannot be completed according to the established time standards. In addition to human resources, limited workshop facilities and infrastructure also pose a significant obstacle to operational effectiveness. FR informant emphasized that "another highly influential factor is the availability of facilities and infrastructure, including work equipment and spare parts. Without complete and adequate support, the repair process is hampered. We often experience obstacles because some tools are no longer optimally used and spare parts are not always available, which directly impacts the effectiveness of the workshop's performance." Incomplete work equipment, equipment that has experienced a decline in function, and limited spare parts that are often delayed in procurement mean that the maintenance and repair process for SBNP equipment cannot be carried out optimally and on time.

Furthermore, coordination between units and related agencies also has a significant impact on workshop effectiveness. A DW informant revealed that "in addition, coordination between units and related agencies also significantly impacts workshop effectiveness. If coordination runs smoothly, the procurement and damage handling processes can be faster. However, if communication is ineffective or bureaucracy is too long, there will be delays in work follow-up, which ultimately disrupts the smooth functioning of the SBNP in the field." Suboptimal communication between units, lack of information synchronization, and long bureaucratic processes in the decision-making process and spare parts procurement result in a slow response to SBNP equipment damage. This sub-focus can be explained through various theories of public administration and organizational management. First, Steers' (1985) theory of organizational effectiveness states that the effectiveness of a public organization is influenced by the organization's ability to optimally manage inputs, processes, and outputs. Imbalances in human resource capacity, limited infrastructure, and weak coordination indicate weaknesses in the input and process aspects, which impact suboptimal outputs and outcomes. Second, Armstrong (2014) emphasizes that the availability of competent human resources and adequate facilities and infrastructure are key factors in organizational performance management. Limited work equipment, spare parts, and suboptimal workshop facilities indicate a gap between operational needs and the availability of supporting resources.

Overall, these three factors—human resources, infrastructure, and coordination—are interrelated and form a unified system that determines the workshop's effectiveness. Weaknesses in one aspect will impact the others, thus reducing the workshop's ability to optimally support the smooth running of the SBNP. Informant SL concluded that "in my opinion, the main obstacle is human resources. The limited number of technicians and uneven competency are the biggest obstacles to increasing workshop effectiveness. To overcome this, it is necessary to add technical personnel and provide ongoing training so that human resource capabilities can be further improved and aligned with operational needs in the field." Meanwhile, informant FR emphasized the infrastructure aspect, and informant DW highlighted the importance of coordination. Thus, the problems identified indicate that workshop effectiveness does not depend solely on a single factor, but is the result of the interaction of various internal and external factors that must be managed in an integrated, systematic, and sustainable manner.

CONCLUSION

1. Based on the research results on sub-focus 1 to 4, it can be concluded that the effectiveness of the workshop in supporting the smooth operation of the SBNP in the Bitung Class I Type A Navigation District Work

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Area is still not running optimally for its operations. This is indicated by various findings in the field which include the operational performance of the workshop which still faces limitations in completing work on time, the condition of facilities and infrastructure that are not yet fully adequate, and the capacity of human resources that is not yet balanced with the existing workload. In addition, coordination between units and related agencies also still experiences obstacles, especially in terms of communication, information synchronization, and speed of response to damage to SBNP equipment. As a result of these conditions, the maintenance and repair process of navigation facilities becomes less effective, thus potentially disrupting the smooth operation of the SBNP as a whole in the Bitung Class I Type A Navigation District work area.

2. Based on the fifth sub-focus, it can be concluded that the factors influencing the workshop's effectiveness in supporting the smooth running of the SBNP include human resource capacity and competence, the availability of facilities and infrastructure, and coordination between units and related agencies. These three factors are closely related and influence each other in determining the workshop's effectiveness. Limited human resources, both in terms of inadequate numbers and competencies result in an inadequate workload distribution. Limited facilities and infrastructure, including work equipment and spare parts, slow down maintenance and repair processes. Meanwhile, weak coordination between units and relevant agencies leads to delays in decision-making and operational follow-up. Therefore, workshop effectiveness depends heavily on effective synergy between these three factors within an integrated and sustainable work system.

REFERENCES

- Armstrong, M. (2014). *Armstrong's handbook of human resource management practice* (13th ed.). Kogan Page.
- Denhardt, J. V., & Denhardt, R. B. (2015). *The new public service: Serving, not steering* (4th ed.). Routledge.
- Direktorat Jenderal Perhubungan Laut, Kementerian Perhubungan Republik Indonesia. (2021). *Laporan kinerja Direktorat Jenderal Perhubungan Laut tahun 2021*. Kementerian Perhubungan Republik Indonesia.
- Dwiyanto, A. (2018). *Manajemen pelayanan publik: Peduli, inklusif, dan kolaboratif*. Gadjah Mada University Press.
- Henry, N. (2015). *Public administration and public affairs* (13th ed.). Routledge.
- International Maritime Organization. (1973/1978). *International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78)*. International Maritime Organization.
- Kementerian Perhubungan Republik Indonesia. (2024). *Peraturan Menteri Perhubungan Republik Indonesia Nomor PM 2 Tahun 2024 tentang Perubahan atas Peraturan Menteri Perhubungan Nomor PM 19 Tahun 2022 tentang Organisasi dan Tata Kerja Distrik Navigasi*. Berita Negara Republik Indonesia Tahun 2024 Nomor 40.
- Mahsun, M. (2016). *Pengukuran kinerja sektor publik* (Ed. 1, Cet. 6). BPF.
- Mardiasmo. (2018). *Akuntansi sektor publik*. Andi.
- Mazmanian, D. A., & Sabatier, P. A. (1983). *Implementation and public policy*. Scott, Foresman.
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis: A methods sourcebook* (3rd ed.). SAGE Publications.
- Pollitt, C., & Bouckaert, G. (2017). *Public management reform: A comparative analysis into the age of austerity* (4th ed.). Oxford University Press.
- Republik Indonesia. (1945). *Undang-Undang Dasar Negara Republik Indonesia Tahun 1945*.
- Republik Indonesia. (2008). *Undang-Undang Republik Indonesia Nomor 17 Tahun 2008 tentang Pelayaran*. Lembaran Negara Republik Indonesia Tahun 2008 Nomor 64; Tambahan Lembaran Negara Republik Indonesia Nomor 4849.
- Steers, R. M. (1985). *Efektivitas organisasi*. Erlangga.
- Thompson, J. D. (1967). *Organizations in action: Social science bases of administrative theory*. McGraw-Hill.
- United Nations. (1982). *United Nations Convention on the Law of the Sea*. United Nations.
- World Commission on Environment and Development. (1987). *Our common future*. Oxford University Press.