



DOI: <https://doi.org/10.38035/v2i1>
<https://creativecommons.org/licenses/by/4.0/>

Enhancing Competence and BNS Certification for Loading Master and Draught Survey to Realize Professional and Competitive Maritime Human Resources

Hadiansyah¹.

¹Akademi Maritim Nusantara Banjarmasin, Indonesia, hr.tabrun@gmail.com.

Corresponding Author: hr.tabrun@gmail.com¹

Abstract: The maritime sector demands high accuracy and professionalism in cargo handling operations to minimize financial losses due to cargo discrepancies. This community service activity aims to enhance the competence of maritime human resources through technical training and BNSP (National Professional Certification Agency) certification in the Loading Master and Draught Survey schemes. The implementation method involved intensive mentoring, including maritime regulation theory, hydrostatic table calculation simulations, and official competency assessments by the Professional Certification Body (LSP). The results indicate that the integration of technical expertise (ship draught calculations) and formal BNSP certification significantly increases the confidence and bargaining power of practitioners in the logistics industry. By strengthening these competencies, it is expected to create a maritime work ecosystem that is more accurate, transparent, and internationally competitive.

Keyword: Maritime Competence, BNSP Certification, Loading Master, Draught Survey, Professional HR.

INTRODUCTION

The maritime sector serves as a primary pillar of the national economy, positioning ports as critical logistics hubs. Operational efficiency within these ports is heavily dependent on the quality of Human Resources (HR) managing cargo loading processes, specifically the vital roles of the Loading Master and Draught Surveyor. According to Ministerial Regulation No. PM 6 of 2021 concerning Ship Service Procedures, the accuracy of cargo data is a mandatory prerequisite for maritime safety. This is further reinforced by Law No. 17 of 2008 on Shipping and Government Regulation No. 31 of 2021, which mandate that every maritime worker possess certified competencies to ensure safety and security standards in water transportation. However, reality in the field indicates that challenges regarding cargo calculation accuracy frequently occur, leading to discrepancies between shippers and receivers.

The urgency of strengthening these competencies is supported by relevant theoretical foundations. Thomas (2020), in his theory regarding cargo data accuracy, states that minor errors in draught readings can result in cargo discrepancies of up to hundreds of tons; thus, the precision of a Draught Surveyor in correcting trim and water density is absolute. From a safety

perspective, Derrett (2012) emphasizes that a Loading Master is responsible for maintaining the ship's Center of Gravity to prevent structural stresses that jeopardize stability. Managerially, Spencer & Spencer (1993) assert that HR competencies must be validated through official certification to establish measurable performance standards. This aligns with Stopford's (2009) theory, which suggests that logistics efficiency and accelerated turnaround times are significantly influenced by the proficiency of loading coordination. Finally, referring to Porter's (1985) theory of competitive advantage, holding official certifications—such as those from the National Professional Certification Agency (BNSP) as mandated by Government Regulation No. 10 of 2018—provides local HR with the competitiveness needed to face global market challenges and meet International Safety Management (ISM) Code standards. Therefore, the integration of technical strengthening and legal certification is a strategic step toward realizing professional and high-integrity maritime personnel.

This competency enhancement and certification activity provide a concrete solution to operational challenges in the maritime sector, particularly in minimizing cargo calculation errors and improving ship safety standards. Through the reinforcement of technical aspects in the roles of Loading Master and Draught Survey, validated by BNSP certification, maritime HR not only gains legal-formal recognition but also develops higher confidence in navigating the dynamics of the global industry. In conclusion, the synergy between mastering stability theory, practical precision in the field, and compliance with national regulations is the key to establishing a maritime logistics ecosystem that is accurate, transparent, and highly competitive.



Source: Processed Data (2026).

FIGURE 1.1. Implementation of the Competency Certification Program in Makassar.



Source: Processed Data (2026).

FIGURE 1.2. Participants of the Maritime Competency Training and Certification in Makassar.



Source: Processed Data (2026).

FIGURE 1.3. Group Photo Session with the Training Team and Participants.

METHOD

This community service activity was conducted from March 28–30, 2026, in Makassar City, utilizing a Participatory Training and Assessment approach. The methodology was systematically structured into four main stages: First, the In-Class Theory and Socialization Stage, focusing on the mastery of maritime safety regulations, Loading Manual procedures, and ship hydrostatic calculations. Second, the Field Simulation/On-Site Stage, where participants performed simulations of reading draught marks and calculating cargo weight using Stability Booklets. Third, the Pre-Assessment Stage, serving as a self-evaluation of portfolios and technical readiness. The series of activities concluded with the Competency Assessment (Certification) Stage, administered by a BNSP-licensed Professional Certification Body (LSP) to provide official competency recognition for the participants.

RESULTS AND DISCUSSION

The implementation of this intensive one-week training provided sufficient space for participants to explore the correlation between stability theory and practical implementation in the field. Regarding the Loading Master material, the discussion was no longer limited to technical loading aspects but shifted toward risk management and complex ship stability oversight. Participants were trained to develop optimal stowage plans that not only optimize cargo space but also account for structural safety. During discussion sessions, emphasis was placed on the importance of avoiding overstress—such as hogging and sagging—on the ship's structure through even cargo distribution. This is crucial because errors in loading management can lead to permanent hull damage or fatal accidents during bad weather at sea.

In the Draught Survey aspect, the one-week training allowed participants to perform deep observations of environmental variables that are often overlooked. The focus was directed toward the precision of data collection, such as sea water density and dynamic ship trim conditions. Through repeated practice, participants understood that the accuracy of reading draught marks is the cornerstone of data integrity. For instance, a reading error of just 1 centimeter on a large Bulk Carrier can cause a calculation discrepancy of 100 to 150 tons. Participants were also equipped with the ability to perform ship displacement corrections using hydrostatic tables precisely, which is a core skill in minimizing business disputes between shippers and consignees.

Furthermore, the duration of the training facilitated the internalization of professional values through real-world case simulations. The results of this activity prove that the

combination of technical expertise (Hard Skills) and understanding of BNSP regulations (Legal Competence) significantly increases the confidence of practitioners. Participants are not only competent in calculations but also proficient in defending technical arguments based on applicable international standards. With the possession of a BNSP competency certificate, maritime HR now holds authentic evidence of their expertise recognized nationally. This directly increases their bargaining power in the eyes of logistics companies, port operators, and ship owners, while providing a quality guarantee for the maritime industry in Indonesia.

CONCLUSION

This competency strengthening activity has successfully increased the technical capacity of maritime HR in managing loading operations and ship draught calculations accurately. BNSP certification acts as a standardization instrument ensuring that personnel on duty have met national qualifications. In conclusion, the synergy between intensive training and official certification is a strategic step in creating a maritime ecosystem that is professional, transparent, and capable of competing in the international maritime industry arena.

REFERENSI

- Badan Nasional Sertifikasi Profesi. (2018). Peraturan Pemerintah Republik Indonesia Nomor 10 Tahun 2018 tentang Badan Nasional Sertifikasi Profesi. Jakarta: Sekretariat Negara.
- Badan Nasional Sertifikasi Profesi (BNSP). (2023). Pedoman Pelaksanaan Sertifikasi Kompetensi Profesi di Sektor Maritim. Jakarta.
- Derrett, D. R., & Barrass, C. B. (2012). *Ship Stability for Masters and Mates*. Elsevier: Butterworth-Heinemann.
- International Maritime Organization (IMO). (2018). *International Code on the Enhanced Programme of Inspections during Surveys of Bulk Carriers and Oil Tankers (ESP Code)*. London: IMO Publishing.
- Kementerian Perhubungan RI. (2008). Undang-Undang Republik Indonesia Nomor 17 Tahun 2008 tentang Pelayaran. Jakarta: Sekretariat Negara.
- Kementerian Perhubungan RI. (2021). Peraturan Menteri Perhubungan Nomor PM 6 Tahun 2021 tentang Tata Cara Pelayanan Kapal dan Barang Menggunakan Inaportnet. Jakarta: Kemenhub.
- Porter, M. E. (1985). *Competitive Advantage: Creating and Sustaining Superior Performance*. New York: Free Press.
- Spencer, L. M., & Spencer, S. M. (1993). *Competence at Work: Models for Superior Performance*. John Wiley & Sons.
- Stopford, M. (2009). *Maritime Economics* (3rd ed.). London: Routledge.
- Subekti, A. (2021). *Manajemen Operasional Pelabuhan dan Terminal*. Jakarta: PT. RajaGrafindo Persada.
- Thomas, O. O. (2020). *Draught Survey: A Guide to Good Practice*. London: North of England P&I Association.