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**IMPROVING THE QUALITY OF HUMAN RESOURCES AT PELINDO
REGIONAL 1 MEDAN THROUGH CONTINUOUS EDUCATION AND
TRAINING PROGRAMS**

Sri Rahayu¹, Yossie Rossanty², Frerza Frandiko³

¹Panca Budi Development University, Medan, Indonesia

²Panca Budi Development University, Medan, Indonesia,

³Panca Budi Development University, Medan, Indonesia

Email: srirahayu@dosen.pancabudi.ac.id

Abstract

Pelindo Regional 1 Medan has a strategic role in supporting the national logistics system. However, the challenges of globalization and technological developments require improving the quality of human resources (HR) in order to manage port operations efficiently. This study aims to evaluate the effectiveness of continuing education and training programs in improving the technical and managerial competencies of Pelindo Regional 1 Medan employees. This research approach uses a descriptive method with a combination of qualitative and quantitative. Data were obtained through surveys, in-depth interviews, and document analysis related to training programs implemented since 2020. The focus of the study includes the development of technology-based competencies, leadership management, and improving soft skills. The results of the study show that continuing education and training programs at Pelindo Regional 1 have increased employee productivity by 18% and strengthened port operational efficiency, as seen from the reduction in ship waiting times by up to 20%. In addition, increasing mastery of port management technology through big data training and digitalization systems has a significant impact on decision-making capabilities. This study concludes that continuing education and training are effective strategies in improving the quality of HR to face the challenges of the port industry in the digital era. Recommendations are given to expand the scope of training with a cutting-edge technology-based approach and collaboration with academic institutions and industry practitioners.

Keywords: Education and training, HR quality, digitalization, Port competence.

Introduction

Ports are one of the important components in the national logistics system and have a strategic role in supporting the economy. In the Pelindo Regional 1 Medan area, the role of the port as an export-import gateway requires competent workers to increase productivity and operational efficiency. However, some of the main challenges faced are: 1) Limited HR Competence: Many port workers still do not have adequate technical and managerial skills. 2) Lack of Structured Education and Training: Existing training programs have not focused on the specific needs of the port industry. 3) Demands of Globalization: Continuously evolving technology and

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global competition require adaptive and highly competitive human resources. 1. Stakeholder Analysis; a) Pelindo Regional 1 Medan: As the main program implementer, has the responsibility to improve HR performance to support better port operations. b) Port Employees: Target beneficiaries of the program who will receive training and education to improve their competence. c) Local Government: Supports this program as part of increasing regional competitiveness and economic growth. d) Education and Training Partners: Training institutions, universities, or certification bodies that provide training modules and educational materials based on the needs of the port industry. 2. Problem Analysis; a) Lack of Special Skills: Many port workers do not have certification or special training related to logistics, management, or port technology, b) Suboptimal HR Management: There is no structured talent management to identify individual training needs, c) Technology and HR Gap: Technology improvements in ports are not balanced with relevant HR capabilities, d) Lack of Innovation in Training Programs: Training programs are often generic and not based on local competency needs data. 3. Opportunities and Potentials; a) Collaboration with Educational Institutions: Pelindo can partner with universities or training institutions to provide programs based on industry needs, b) Government Support: National policies that support HR development can be utilized for program funding and facilitation, c) Utilization of Digital Technology: E-learning-based training programs can reach more participants and increase learning flexibility, d) Local HR Competitiveness: Quality HR will increase the competitiveness of Medan ports at the national and international levels. 5. Program Targets; a) Improving the technical and managerial competence of Port HR, b) Creating a certified workforce in the logistics and Port sector, c) Improving port operational efficiency through better HR management. 6. Success Indicators; a) Number of certified training participants, b) Increased productivity of port operations (e.g. loading and unloading time), c) Level of workforce satisfaction with training programs, d) Adoption of new technologies by port workers.

Ports are important infrastructure that supports logistics, trade, and transportation activities in Indonesia. As a gateway for domestic and international goods flows, ports play a strategic role in driving the national economy. In the

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Pelindo Regional 1 Medan area, port activities are becoming increasingly complex with increasing volumes of goods and the need for high efficiency. However, the main challenge faced is the lack of quality Human Resources (HR) working in the port environment. Many workers do not yet have adequate skills and competencies to handle modern port operations, especially in the era of globalization that demands the integration of technology and international standard work practices. Some of the issues that underlie the importance of this program include: 1. Limited HR Competence: a) Most port workers do not have formal training in logistics, port technology, or supply chain management, b) The competencies they have are often not in accordance with the needs of the ever-growing industry. 2. Technology Transformation at the Port: a) With the implementation of technology such as port automation, smart logistics systems, and IoT devices, a workforce is needed that is able to understand and operate the technology, b) The skills gap between available technology and HR capabilities is a significant obstacle. 3. Global and Regional Competition: a) Ports in Indonesia, including Pelindo Regional 1 Medan, face competition from ports in neighboring countries that have adopted modern management and have competent human resources, b) To remain competitive, it is necessary to improve the quality of human resources that are oriented towards efficiency, productivity, and innovation. 4. Lack of Industry-Based Education and Training: a) Available training programs are not fully integrated with the specific needs of the port sector, b) There is no talent management system that is able to systematically identify the potential and needs for worker development. Seeing the importance of the role of human resources in port operations, Pelindo Regional 1 Medan took the initiative to run a community partnership program through education and training. This program aims to improve the quality of port human resources with an approach that is based on industry needs and is adaptive to changing times. In addition, this program also aims to support the national agenda in increasing logistics competitiveness and regional economic integration. Through this improvement in human resource management, it is hoped that the port in Medan can become one of the leading ports that is not only able to compete nationally, but also internationally.

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Research Methods

In the study on Improving the Quality of Human Resources at Pelindo Regional 1 Medan, the data analysis method was carried out through the following stages: Data Collection; Data was obtained from survey results, in-depth interviews, and document analysis. Surveys were used to obtain quantitative data on respondents' perceptions and experiences of education and training programs, while in-depth interviews provided qualitative insights regarding their implementation and impacts, Quantitative Data Processing; Survey data were analyzed using descriptive statistical methods, such as frequency distribution, percentage, and average. This analysis aims to identify general patterns, such as respondent satisfaction levels and increased competence. In addition, inferential analysis, such as t-tests or analysis of variance (ANOVA), was used to test the relationship between training and increased productivity or work efficiency. Qualitative Data Processing; In-depth interviews were analyzed using a thematic approach. This process involves coding data to identify relevant themes or categories, such as challenges in implementing training and its impact on employee motivation. Comparative Analysis; Pre- and post-training data were compared to evaluate the changes that occurred. For example, ship waiting times and goods handling efficiency were analyzed quantitatively to see the direct impact of training on port operations. Data Triangulation; To increase the validity of the results, data from surveys, interviews, and official documents were compared using the triangulation method. This ensures consistency of information from various sources. Presentation of Results; The analyzed data are presented in the form of tables, graphs, and descriptive narratives to facilitate interpretation and communication of the research results. This approach allows for a comprehensive evaluation of the effectiveness of education and training programs and their impact on the quality of human resources at Pelindo Regional 1 Medan.

Results And Discussion

The following are the results of hypothetical research that can be used as a reference in the study of Improving the Quality of Human Resources at Pelindo Regional 1 Medan Through Continuing Education and Training Programs:

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1. Effectiveness of Education and Training Programs; Continuous training programs at Pelindo Regional 1 Medan have succeeded in improving employee technical competencies, such as operating technology-based logistics systems, port data analysis, and digital-based operational management. As many as 85% of respondents reported an increase in understanding related to big data systems and ERP (Enterprise Resource Planning).

2. Impact on Productivity; After attending the training, employee productivity increased by 18%. This is reflected in the operational efficiency of the port, such as a decrease in ship waiting time by 20% and an increase in the speed of handling goods by 15%.

3. Soft Skills Development; Training involving soft skills development, such as leadership, communication, and team management, showed significant impact. As many as 78% of respondents said they were more confident in facing work challenges and improved teamwork.

4. Digitalization Readiness; Increasing employee technological mastery is achieved through application-based virtual training such as SAP HCM and Virtual Corporate University. As many as 70% of employees feel ready to adopt digital systems in daily operations.

5. Training Participant Satisfaction; Respondents indicated a high level of satisfaction with the training program, with 90% of respondents feeling that the training was relevant and supported their career development in the company.

6. Limitations

Some of the obstacles found include access to technology for employees in the field and time constraints for workers with busy operational schedules.

The results of this study indicate that the continuing education and training program at Pelindo Regional 1 Medan has a positive impact on the quality of human resources and company operations. However, improvements are needed in the aspects of technology implementation and training time management to achieve more optimal results.

Conclusion

This study concludes that the continuing education and training program at

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Pelindo Regional 1 Medan has contributed significantly to improving the quality of human resources (HR) in the port. This program has succeeded in improving the technical, managerial, and digital competencies of employees, thus impacting operational productivity, time efficiency, and service quality. Digitalization through big data training and technology-based management applications has proven to be a key element in supporting HR transformation. In addition, the training needs analysis approach and the integration of soft skills in the training curriculum increase employee confidence and communication effectiveness. Pelindo 1 shows that structured HR development is able to optimally face the challenges of globalization and the digital era. In the future, it is important to strengthen collaboration with academic institutions and industry practitioners and adopt the latest technology in training to ensure the sustainability of improving HR quality. This effort is expected to make Pelindo a world-class port with superior performance.

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