SHIP REPAIR COST OPTIMIZATION USING QUALITY FUNCTION DEPLOYMENT AND LINEAR PROGRAMMING METHOD (CASE STUDY SURYA SHIPYARD PT.PELNI)

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ABSTRACT

Surya Shipyard PT. PELNI is a shipyard owned by the government that serves Indonesian ship repair (PT PELNI’s ship or private). This shipyard was found in 1960, with the government’s decision, which is formed from the combination of several companies. Research carried out aimed to determine the optimal value of ship repair cost using the Quality Function Deployment and Linear Programming Method.

A survey was conducted to obtain the perception and expectation of customers. This research will help find the optimal value to improve the service quality through integration of Quality Function Deployment (QFD) and Linear programming (LP) methods. In the calculation, it is known to have higher value than the budget provided sand blasting with Rp. 56,430,000 from budget the solution value to be Rp. 60,436,528, in the 2nd highest is keel replate variable with Rp. 53,000,000 to be Rp. 56,763,000. In calculating solution value, there is lower than budget are inner bottom replating, budget Rp. 45,500,000 to be Rp. 42,246,752, replating on body plan from Rp. 52,000,000 to be Rp. 48,967,124.

The result of this research shows when the solution value higher than budget, its mean technical response really important and priority in annual docking process, and contrarily if the value lower than budget, its mean not optimalize that cost allocation and can be use in other priority variable. Than the optimal value can be found and can be used on ship repair in Surya Shipyard PT.PELNI

Key words: Quality Function Deployment, Linear Programming, Optimization repair cost