

ABSTRACT

This study aims to analyze the selection of material handling in the warehouse and chill storage section at PT Maju Bersama Karib (MBK) using the Analytical Hierarchy Process (AHP) method. PT MBK is a seafood processing company that exports canned crab products with high production and distribution volumes. Currently, the process of moving materials in the warehouse and chill storage is still done manually (Manual Material Handling/MMH) which has a high risk of causing physical injuries to workers, such as back pain, finger injuries, and scratches. Risk management evaluations show a high risk of injury due to unergonomic workloads and manual transfer methods. Therefore, this study proposes the selection of appropriate material handling equipment (MHE) to reduce the risk of accidents and improve work efficiency. AHP method is used to prioritize the selection of MHE based on risk, cost, and effectiveness criteria. The results are expected to provide optimal recommendations for PT MBK in improving work safety and productivity in the product storage and distribution process. The analysis results show that for chill storage, the use of Hand Pallet Jacks is the best solution that meets operational criteria with high flexibility in limited spaces and economical costs. Meanwhile, for warehouses, the Gasoline Forklift is the preferred alternative, offering high load capacity and maneuverability suitable for transporting heavy palletized goods in large volumes. The implementation of both tools is expected to significantly reduce the risk of workplace accidents, improve material handling efficiency, and maintain product quality throughout the export process.