

ABSTRACT

OPTIMIZATION ANALYSIS OF PRODUCT INVENTORY USING A COMBINATION OF ABC, EOQ, AND ROP METHODS

(A Case Study at CV Dericom Tasikmalaya)

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This study aims to determine and analyze the optimization of the product inventory control system at CV Dericom Tasikmalaya by combining the Always Better Control (ABC), Economic Order Quantity (EOQ), and Reorder Point (ROP) methods. In facing intense competition in the technology device industry, running efficient operations is essential to avoid risks like overstocking and stockouts. Using a quantitative approach, 2024 historical inventory data of 40 product items were comprehensively analyzed. The ABC analysis successfully classified 10 priority items into the Class A category, which accounts for a dominant 80.99% of the total investment value. Furthermore, applying the EOQ method to these Class A priority items successfully reduced the total annual inventory cost from IDR 18,160,000. to IDR 13,060,309. achieving a significant cost efficiency of 28.08%. Finally, the ROP method precisely determined the accurate reorder points to maintain stock continuity. The integration of these three methods is proven to improve inventory efficiency, ensure product availability, and minimize operational costs.

Keywords: ABC Analysis, Economic Order Quantity (EOQ), Reorder Point (ROP), Inventory Control, Cost Efficiency.