

# Decision Support System for Optimizing Finished Goods Inventory at PT. Hased Indonesia Using the EOQ (Economic Order Quantity) Method

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## ABSTRACT

This study aims to design and implement a Decision Support System (DSS) to optimize the management of finished goods inventory at PT. Hased Indonesia using the Economic Order Quantity (EOQ) method. In the manufacturing industry, one of the main challenges in the supply chain is maintaining the availability of finished goods at optimal levels to avoid overstocking which results in excessive storage costs and understocking, which can impede distribution processes. To address this challenge, the EOQ method is employed for its effectiveness in determining optimal order quantities, annual demand, and per-unit storage costs. This research adopts a case study approach with a quantitative methodology. The data collected includes annual demand for finished goods, ordering costs, and storage costs provided by the company. The processed data using the EOQ formula serves as the basis for developing a system capable of generating recommendations for optimal order quantities and ordering frequencies. The DSS is designed to deliver timely and accurate information to assist managerial decision-making regarding inventory control. The results demonstrate that the implementation of the EOQ-based DSS significantly reduces total inventory costs and enhances the company's operational efficiency. Moreover, the system facilitates data-driven decision-making and minimizes subjectivity in inventory management. With the implementation of this system, PT. Hased Indonesia is expected to manage its finished goods inventory more effectively and adaptively in response to market demand fluctuations.

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