

ABSTRAK

ANALISIS PERENCANAAN PERSEDIAAN BAHAN BAKU APAR DENGAN PENDEKATAN EOQ DAN SAFETY STOCK

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Persediaan bahan baku memiliki peranan penting dalam menjaga kelancaran proses produksi dan efisiensi biaya perusahaan. CV Arsana Sentosa sebagai perusahaan penyedia dan pengisi tabung Alat Pemadam Api Ringan (APAR) menghadapi masalah fluktuasi kebutuhan bahan baku, yang menimbulkan risiko kelebihan maupun kekurangan stok. Kondisi ini berdampak pada meningkatnya biaya simpan serta potensi keterlambatan produksi. Penelitian ini bertujuan menganalisis sistem persediaan bahan baku yang berjalan dan memberikan usulan perencanaan dengan metode Economic Order Quantity (EOQ) dan Safety Stock agar perusahaan dapat menentukan jumlah pemesanan optimal, frekuensi pemesanan, serta stok minimum yang aman. Penelitian dilakukan dengan pendekatan deskriptif kuantitatif menggunakan data historis pembelian, pemakaian, biaya simpan, dan biaya pemesanan, yang diolah melalui perhitungan EOQ, Forecasting metode Moving Average, serta analisis safety stock dan reorder point. Hasil penelitian menunjukkan bahwa pemesanan optimal bahan baku adalah 2.111 unit dengan frekuensi pemesanan tiga kali per tahun. Penerapan metode EOQ dan Safety Stock mampu menurunkan total biaya persediaan dari Rp8.424.999 menjadi Rp4.415.881. Kesimpulannya, penggunaan metode ini dapat meningkatkan efisiensi pengendalian persediaan serta mendukung kelancaran produksi di CV Arsana Sentosa.

Kata Kunci: Persediaan Bahan Baku, Economic Order Quantity, Safety Stock, APAR, Manajemen Produksi

ABSTRACT

Inventory Planing Analysis of as Raw Materials for Fire Extinguishers by Using The EOQ and Safety Stock Approach

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Raw material inventory plays a crucial role in ensuring smooth production processes and cost efficiency within a company. CV Arsana Sentosa, a supplier and refilling service provider for fire extinguishers (APAR), faces fluctuating demand for raw materials, which often leads to both overstock and stockout conditions. These issues increase storage costs and the risk of production delays. This study aims to analyze the current inventory management system and propose an improvement using the Economic Order Quantity (EOQ) and Safety Stock methods to determine the optimal order quantity, ordering frequency, and minimum safety level of inventory. The research employed a descriptive quantitative approach by analyzing historical data on purchasing, usage, ordering costs, and holding costs. Data were processed using EOQ calculations and moving average forecasting, as well as safety stock and reorder point analysis. The results indicate that the optimal order quantity is 2,111 units with three orders per year. Implementing EOQ and safety stock reduced the total inventory cost from IDR 8,424,999 to IDR 4,415,881. In conclusion, these methods can significantly improve inventory efficiency and ensure production continuity at CV Arsana Sentosa.

Keywords: *Raw Material Inventory, Economic Order Quantity, Safety Stock, Fire Extinguisher, Production Management*