

ABSTRAK

ANALISIS PERENCANAAN KEBUTUHAN MATERIAL UNTUK EFISIENSI BIAYA PERSEDIAAN BAHAN BAKU LEMARI

(Studi pada PD. Dadan Putra)

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Pembimbing I : Kartawan

Pembimbing II : Febrialdy Hendratawan

PD. Dadan Putra menghadapi persoalan inefisiensi logistik akibat kebijakan pengadaan bahan baku kayu jati yang bersifat statis setiap bulannya. Kondisi ini memicu penumpukan material secara masif yang berdampak langsung pada pembengkakan biaya perawatan dan total biaya persediaan. Penelitian ini bertujuan merancang penjadwalan material terintegrasi serta membuktikan efisiensi finansial melalui implementasi Perencanaan Kebutuhan Material. Pendekatan studi menggunakan simulasi perangkat lunak dengan mengekstraksi jadwal induk produksi, struktur produk berjenjang, dan catatan persediaan. Penentuan kuantitas pesanan dieksekusi melalui metode *pemesanan lot for lot*, sedangkan validasi perbandingan biaya operasional dievaluasi secara komprehensif menggunakan uji statistik analisis varians. Komputasi sistem membuktikan perubahan radikal pada volume pesanan fisik menjadi murni menyesuaikan kebutuhan bersih bulanan. Sinkronisasi jadwal penjabaran pada seluruh komponen penolong berhasil memverifikasi tereliminasinya risiko kekosongan stok pada lini perakitan. Sistem ini sukses mengeliminasi tumpukan persediaan kayu jati. Secara finansial, efisiensi volume berdampak langsung pada penurunan total biaya persediaan aktual. Terdapat penghematan biaya logistik murni selama periode operasional, membuktikan metode ini sangat efektif membebaskan modal kerja.

Kata Kunci: Perencanaan Kebutuhan Material, Total Biaya Persediaan, Analisis Varians, *Lot for Lot*, Kayu Jati.

ABSTRACT

ANALYSIS OF MATERIAL REQUIREMENTS PLANNING FOR WARDROBE RAW MATERIAL INVENTORY COST EFFICIENCY

(A Study at PD. Dadan Putra)

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PD. Dadan Putra faces logistical inefficiency issues due to a static monthly procurement policy for teak wood raw materials. This condition triggers massive material buildup, which directly impacts the inflation of holding costs and total inventory costs. This study aims to design an integrated material scheduling system and demonstrate financial efficiency through the implementation of Material Requirements Planning (MRP). The study approach utilizes software simulation by extracting the master production schedule, multi-level bill of materials, and inventory records. The order quantity is determined using the lot-for-lot (L4L) method, while the validation of operational cost comparisons is comprehensively evaluated using the Analysis of Variance (ANOVA) statistical test. System computation demonstrates a radical shift in physical order volumes, purely adapting to monthly net requirements. The synchronization of the explosion schedule across all supporting components successfully verifies the elimination of stock-out risks on the assembly line. This system effectively eliminates the accumulation of teak wood inventory. Financially, volume efficiency directly contributes to a reduction in the actual total inventory cost. Pure logistical cost savings were achieved during the operational period, proving that this method is highly effective in freeing up working capital.

Keywords: *Material Requirements Planning, Total Inventory Cost, Analysis of Variance, Lot for Lot, Teak Wood.*