

## ABSTRAK

PT. Mortar Estrich merupakan perusahaan industri yang memproduksi perekat bata putih yang berkualitas yang berlokasi di Semarang Indonesia dan mampu memasok perekat bata putih di Jawa Tengah yang didukung beberapa distributor. Selain perekat bata putih (bata ringan), perusahaan ini juga memproduksi acian abu-abu, acian putih, plester, scin coad (acian halus), plaster rander (plaster halus). Perusahaan telah dipercaya untuk mendistribusikan produknya yang didasarkan pada permintaan dari distributor yang tersebar di tiga kota yaitu Magelang, Wonosobo, dan Muntilan menggunakan sarana transportasi darat. Kegiatan pendistribusian produk perekat bata putih selama ini tidak sesuai dengan target yang menjadikan sering terjadi kekurangan atau kelebihan persediaan karena belum adanya suatu perencanaan dan penjadwalan aktivitas distribusi. Pada proses pendistribusian produk tidak ada perhitungan dan pertimbangan jumlah produk yang optimal sehingga produk perekat bata putih yang akan dikirimkan pada masing-masing tujuan kurang terkontrol yang dapat menyebabkan terjadinya kekurangan atau kelebihan persediaan. Dengan adanya masalah tersebut, perlu dilakukan perencanaan dan penjadwalan aktivitas distribusi dengan melakukan perhitungan akurasi peramalan dengan metode *time series* (Moving Average, Single Exponential Smoothing, Double Exponential Smoothing) karena menggunakan data history, Pemilihan metode peramalan terbaik berdasarkan kriteria MAD & Tracking Signal, Perhitungan biaya distribusi metode perusahaan, Perhitungan metode *Distribution Requirement Planning* (DRP), yang terakhir memilih biaya terkecil dari perbandingan biaya distribusi perusahaan dengan biaya distribusi metode DRP. Dengan hasil pada gudang Magelang sebanyak 1.141 zak setiap kali pemesanan, Wonosobo sebanyak 1.241 zak setiap kali pemesanan, Muntilan sebanyak 1.298 zak setiap kali pemesanan. Perencanaan distribusi dengan menggunakan metode *Distribution Requirement Planning* dapat menurunkan biaya distribusi pada Wonosobo sebesar 54%, Magelang sebesar 60%, Muntilan sebesar 59%.

**Kata Kunci :** PT. Mortar Estrich, Pendistribusian Produk, Peramalan, *Distribution Requirement Planning* (DRP)

## ABSTRACT

PT. Mortar Estrich is an industrial company that produces quality white brick adhesives located in Semarang Indonesia and is able to supply white brick adhesives in Central Java which is supported by several distributors. In addition to white brick adhesives (light bricks), this company also produces gray plaster, white plaster, plaster, scin coad (smooth plaster), plaster rander (smooth plaster). The company has been trusted to distribute its products based on requests from distributors spread across three cities, namely Magelang, Wonosobo, and Muntilan using land transportation. So far, the distribution activity of white brick adhesive products is not in accordance with the target which causes shortages or excess supplies because there is no planning and scheduling of distribution activities. In the product distribution process, there is no calculation and consideration of the optimal number of products so that the white brick adhesive product that will be sent to each destination is less controlled which can cause a shortage or excess supply. With this problem, it is necessary to plan and schedule distribution activities by calculating the accuracy of forecasting with the time series method (Moving Average, Single Exponential Smoothing, Double Exponential Smoothing) because it uses historical data, Selection of the best forecasting method based on MAD & Tracking Signal criteria, calculation of distribution costs by company methods, calculation using the Distribution Requirement Planning (DRP), the latter chooses the smallest cost from the comparison of the company's distribution costs with the distribution costs of the DRP method. With the results in the Magelang warehouse as many as 1,141 bags per order, Wonosobo as many as 1,241 bags for each order, Muntilan as many as 1,298 bags for each order. Distribution planning using the Distribution Requirement Planning method can reduce distribution costs in Wonosobo by 54%, Magelang by 60%, and Muntilan by 59%.

Keywords: PT. Mortar Estrich, Product Distribution, Forecasting, Distribution Requirement Planning (DRP)