

## ABSTRAK

UD. Abi Mulya merupakan usaha produksi sepatu secara *make to order* yang berlokasi di Jombang. Permasalahan yang terjadi yaitu pengadaan bahan baku hanya menggunakan perkiraan mengakibatkan penumpukan dan kekurangan bahan baku. Penelitian bertujuan menentukan teknik *lot sizing* yang optimal untuk pengadaan kanvas coklat dan *outsole* TPR coklat dalam produksi sepatu kasual coklat dengan *total inventory cost* terendah. Metode yang digunakan yaitu *Material Requirement Planning* (MRP) dengan teknik *lot sizing Economic Order Quantity* (EOQ) dan *Least Unit Cost* (LUC). Peramalan permintaan 6 bulan kedepan dilakukan menggunakan metode *Simple Moving Average* dan *Weight Moving Average*. Hasilnya diperoleh metode peramalan terbaik yaitu *Simple Moving Average*. Hasil perhitungan MRP diperoleh bahwa MRP dengan teknik *lot sizing* LUC menghasilkan *total inventory cost* lebih rendah dibandingkan MRP dengan teknik *lot sizing* EOQ dan kebijakan UD. Abi Mulya. *Total inventory cost* pengadaan kanvas coklat dan *outsole* TPR coklat menggunakan MRP dengan teknik *lot sizing* LUC sebesar Rp. 1.153.334 dapat meminimalkan biaya perusahaan sebesar 26%.

Kata kunci : *Material Requirement Planning, Economic Order Quantity, Least Unit Cost, Total Inventory Cost.*

## **ABSTRACT**

*UD. Abi Mulya is a make to order shoe production business located in Jombang. The problem that occurs is that procurement of raw materials only uses estimates resulting in buildup and shortages of raw materials. The research aims to determine the optimal lot sizing technique for procuring brown canvas and brown TPR outsole in the production of brown casual shoes with the lowest total inventory cost. The method used is Material Requirement Planning (MRP) with lot sizing techniques, Economic Order Quantity (EOQ) and Least Unit Cost (LUC). Forecasting demand for the next 6 months is carried out using the Simple Moving Average and Weight Moving Average methods. The results obtained were the best forecasting method, namely the Simple Moving Average. The results of the MRP calculation show that MRP with the LUC lot sizing technique produces lower total inventory costs compared to MRP with the EOQ lot sizing technique and UD. Abi Mulya policy. The total inventory cost of procuring brown canvas and brown TPR outsole using MRP with the LUC lot sizing technique is IDR. 1,153,334 can minimize company costs by 26%.*

*Keywords: Material Requirement Planning, Economic Order Quantity, Least Unit Cost, Total Inventory Cost.*