ABSTRACT

This study is motivated by the issue of delayed wood raw material supply in the production of sofas at CV. Almer Mebel*, which leads to product delivery delays, decreased customer satisfaction, and 5% compensation to customers. The aim of this research is to forecast the demand for raw materials and to develop a raw material requirement plan using the Material Requirement Planning (MRP) method. The forecasting methods applied include Time Series Decomposition, Holt's Exponential Smoothing, and Winter's Exponential Smoothing. Evaluation results indicate that the Time Series Decomposition method provides the best performance with a MAPE of 6.69%, MAD of 9.88, and MSE of 135.86. Based on the forecasting results, a Master Production Schedule (MPS) was created, followed by raw material planning using Lot-for-Lot (LFL) and Economic Order Quantity (EOQ) approaches. The implementation of this strategy is expected to prevent raw material shortages and surpluses, ensuring the production process proceeds on schedule.*

Keywords: *agregate planning, forecasting, MRP, MPS, sofa*