ABSTRACT

Musthofa Nur Fikri. 2024. *Analysis of Production Planning at PT Linggarjati Mahardika Mulia Pacitan Using the Forecasting Method. Industrial, Fakulty of Engineering*, Universitas PGRI Madiun. *Advisor* (1) Aloysius Tommy Hendrawan, S. T., M. T. *Co-Advisor* (II) Halwa Annisa Khoiri, S.Si., M. Si.

Fluctuations in demand require companies to plan production well so that consumer demand is met on time and inventory does not run out. This study aims to determine the right forecasting method for production planning at PT Linggarjati Mahardika Mulia Pacitan and project demand in 2024. The forecasting results will be used to plan raw material requirements for plywood production.

Forecasting method analysis uses methods such as Moving Average, Single Exponential Smoothing, Double Exponential Smoothing, Holt Winters, Decomposition and Linear Regression. Then the raw material planning uses the EOQ method and a formula to calculate safety stock and re-order point. In the research process that has been carried out, it can be concluded that the right forecasting method is using the Winters` method with a level value of 0.8 trend 0.01 and seasonal 0.01 and the amount of plywood demand in the 2024 period is 10069.80 m3. The need for raw log materials is 15,104.70 m3, then the EOQ calculation is 3,545 m3 with an ordering frequency of 4 times. The amount of safety stock log is 137.133 m3 with an ROP of 476.98875 m3. The need for glue raw materials is 703,075.45 Kg, then the EOQ calculation is 144,359.2414 Kg with an ordering frequency of 5 times. The amount of glue safety stock is 2,727.821 Kg with ROP 9,488.162371 Kg. The need for flour raw materials is 143,329.50 Kg, then the EOQ calculation is 32,600.6517 Kg with an ordering frequency of 5 times. The amount of flour safety stock is 556.0958 Kg with ROP 1934.264 Kg.

Keywords: Plywood, Forecasting, Production Planning, Time Series.