

ABSTRACT

This research was conducted to design an inventory policy for imported cinchona bark raw materials at PT MNO in order to minimize the occurrence of stockouts. Demand forecasting was carried out using the Simple Seasonal model, which indicated that the demand pattern for 2025 is seasonal, with a peak value of 253,244 kg and a low of 58,144 kg. These results were used to calculate the inventory policy using the Periodic Review (R, s, S) method, yielding optimal parameters including a 2-day review interval (0.0040045 years), a reorder point of 131,365 kg, and a maximum inventory level of 132,770 kg. Prior to implementation, the stockout volume was recorded at 132,969 kg and was successfully reduced to 233.81 kg. In addition, this study developed a decision support data system visualized using Power BI. The system consists of two pages: an input page presenting cost parameters and demand data, and an output page displaying the calculated inventory policy visually. This system is designed to assist decision-makers in understanding inventory conditions and to support effective decision-making at PT MNO.

Keywords: *cinchona bark, stockout, periodic review, forecasting, Power BI, decision support system*