

Analysis of Wheat Flour Raw Material Inventory Control Using the Economic Order Quantity (EOQ) Method In the Putra Madura Tempe Cracker Industry in Jember Regency

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ABSTRACT

Putra Madura Tempe Crackers Industry is one of the agro-industrial businesses engaged in the production of tempe crackers and is located in Gedangan Hamlet, Puger Kulon Village, Puger District, Jember Regency. This study aims to analyze the inventory control of wheat flour raw materials by comparing the company's conventional method and the Economic Order Quantity (EOQ) method. The type of research used is descriptive quantitative with analysis techniques including the calculation of the optimal order quantity, order frequency, safety stock, reorder point, and total inventory cost. The data analyzed is in the form of inventory data and wheat flour production in 2024. The results showed that the company purchased 37,200 kg of wheat flour with an order frequency of 41 times and a total inventory cost of Rp 6,406,109. Meanwhile, the results of the EOQ method analysis show an optimal order quantity of 2,700 kg per order with a frequency of ordering 14 times a year. The safety stock required is 253 kg, with a reorder point when the stock reaches 373 kg. The total cost of inventory using the EOQ method is Rp 2,430,255. Thus, the application of the EOQ method proves to be more efficient because it is able to save inventory costs up to Rp 3,976,109 or around 62.06%.

Keywords: *Inventory Control, Wheat Flour, EOQ, Crackers Industry, Tempe Crackers.*