

Analysis of Soybean Raw Material Inventory Control Using the Economic Order Quantity (EOQ) Method at UMKM Tahu Sumedang Jaya Rasa Jember Regency

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ABSTRACT

UMKM Tahu Sumedang Jaya Rasa is an agroindustry business engaged in tofu production located in Jember Regency, with soybeans as the main raw material. This study aims to analyze the inventory of soybean raw materials in the tofu production process using the Economic Order Quantity (EOQ) method. The problem faced by the business is the inaccuracy in the timing and quantity of raw material ordering, which often leads to shortages and has the potential to disrupt the production process. The EOQ method is used to determine the optimal order quantity, ordering frequency, reorder point (ROP), safety stock, and total inventory cost. This research employs a quantitative descriptive method with data collection techniques including interviews, observations, and documentation based on data from 2024 and 2025. The results show that the application of the EOQ method produces an optimal order quantity of 1,243 kg in 2024 with an ordering frequency of 25 times per year. The safety stock is 162 kg and the reorder point is 249 kg. Meanwhile, in 2025, the optimal order quantity is 1,242 kg with an ordering frequency of 25 times per year, a safety stock of 152 kg, and a reorder point of 239 kg. The small difference between the two years indicates that production levels are relatively stable and consistent in terms of raw material usage. The EOQ method is proven to provide cost efficiency compared to the conventional method used by the company, resulting in more economical total inventory costs. Therefore, the implementation of the EOQ method can improve inventory management efficiency, minimize the risk of raw material shortages, and reduce inventory costs.

Keywords: *Inventory Analysis, EOQ, Soy Bean, Sumedang Tofu, UMKM Tahu Sumedang Jaya Rasa*