

ABSTRACT

Inventory consists of all the resources owned by an organization that are stored in a warehouse to anticipate future customer demand. Additionally, inventory is a crucial asset for many companies, often comprising about 50% of invested capital. While companies frequently aim to minimize costs by reducing stock levels, this approach is not optimal as it can result in stockouts, preventing the company from adequately meeting customer demand. Therefore, inventory must be properly managed through a balanced strategy that ensures customer satisfaction while optimizing inventory costs. Effective inventory control can minimize costs and ensure that the products customers want are available. Adorable Projects is a company operating in the fashion industry, specifically selling women's fashion products, located in Cimahi, West Java.

In the fashion industry, inventory management plays a crucial role because fashion products are fast-moving, and trends change dynamically. Therefore, inventory must be optimally managed to avoid issues such as stock shortages or overstocking. However, Adorable Projects still faces inventory problems, particularly stockouts. Due to suboptimal inventory management, Adorable Projects has not been able to provide satisfactory service to its customers. As a result of the inventory shortages, the company's average fill rate is low, at 68%, which has yet to meet the company's target of 85%. This fill rate percentage indicates that the company often fails to fulfill customer demand on time, negatively impacting customer satisfaction.

For Adorable Projects, customer satisfaction is one of the top priorities. As a company in the fashion industry, where market trends frequently change, the ability to meet demand in a timely manner is critical. If the company fails to meet customer demand, customers will seek alternatives, turning to the company's competitors. This leads to stockouts and impacts inventory costs. The more frequently the company experiences stockouts, the higher the shortage costs it must bear. This contributes to the overall increase in total inventory costs. In

addition to rising costs, the company will also suffer losses due to lost sales, where sales opportunities are missed, and there is a risk of losing customers.

Currently, the total shortage cost, particularly for the sandal product category, has reached Rp1,207,978,623. This high shortage cost contributes to the elevated inventory costs. Therefore, the company aims to reduce actual inventory costs by 5%. To achieve this, Adorable Projects needs an optimal solution to address these inventory issues. The shortage problem at Adorable Projects can be tackled by designing an optimal inventory policy to better meet customer demand.

In addition to the inventory policy design, this study will also involve creating a demand forecasting model for the upcoming period. Thus, the forecasting results can be used by the company as a reference for purchasing products. Therefore, the continuous review method (s,Q) , which considers probabilistic lead time, can design an effective inventory policy for Adorable Projects, particularly for the sandal product category. Additionally, the continuous review method (s,Q) with probabilistic lead time can reduce inventory costs by 13%, increase the fill rate to 99%, and decrease total lost sales to 1%.

Keywords : Inventory, Fashion, Stockout, Fill Rate, Inventory Policy, Continuous Review (s,Q)