

ABSTRACT

PT BCD is experiencing a problem of accumulation of finished goods in the warehouse which causes Outer items to experience defects and damage, so this study aims to plan inventory by forecasting demand and designing inventory policies that consider repair items caused during the buildup of finished goods in the warehouse to minimise total inventory costs using ANN and Continuous Review (s,Q) methods. Demand forecasting is carried out for the next 17 periods from June 2024 to October 2025 using the ANN model with total forecasting results obtained on Inner items of 8481 units and Outer items of 1093 units. Meanwhile, inventory calculations are carried out using the Continuous Review (s,Q) method by calculating the order quantity and reorder point to minimise the total inventory cost. This research develops an inventory model that considers repair items due to the accumulation of goods in the warehouse by integrating the variables of holding cost, ordering cost and repair cost to develop an inventory policy to be more effective and efficient. When inventory has reached the reorder point (s) level but there are damaged products that can be repaired, the order can be held until the order is actually needed if there is a change in demand or other operational conditions. From the results of data processing, there was a decrease in the total inventory cost of Inner items by 84% from the initial total inventory cost and Outer items decreased by 90%. After forecasting demand, there was also a decrease from the initial total inventory cost on Inner items by 83% and Outer items by 90%. The decrease in total inventory costs occurs, because there are adjustments to the order quantity and demand and the addition of repair cost variables to the calculation of the order quantity and total inventory cost for item repairs, so that future shortage costs and repair costs will decrease in total inventory costs and will increase profits and increase cost efficiency for the company.

Keywords : *Overstock, ANN, Continuous Review (s,Q), EOQ*