ABSTRACT

PT XYZ is a company engaged in the repair of electric motors and has a strong relationship with AC and DC electric motors. The company's main business activity is mechanical repair of motors, although every repair procedure requires materials related to the procedure to be successful. A simple example is a motor machine that needs to be repaired; to do so, appropriate materials are required. In order for the warehousing division of PT XYZ to handle material orders well, it needs to be handled carefully to avoid overstock. At this time, PT XYZ is experiencing a decrease in demand so that excess inventory causes high total inventory at PT XYZ of Rp 2,611,408,340, this amount of cost is considered quite high by PT XYZ because this amount of cost exceeds the cost target set by PT XYZ in 2022 of Rp 2,400,000,000 or around 9% so that the company wants a decrease in these costs. The cost target that has been presented is the cost target for 11 SKU parts that absorb the most funds at PT XYZ.

Currently, PT XYZ collaborates with suppliers to make purchases of a certain amount every month. However, in 2022 PT XYZ experienced a decrease in demand caused by the cessation of PPKM in Cikarang so that there was more inventory than demand. PT XYZ wants to continue to cooperate with suppliers so that PT XYZ wants an invariable ordering period if it wants to make changes to the inventory policy. In this study, an inventory policy design using periodic review (R, s, S) was chosen.

Periodic review (R, s, S) is a method to determine how much material to order, when to order, reorder point, and how much shortage is expected. After calculating using periodic review (R, s, S) for 2022 demand data for 11 selected SKUs, it turns out that the periodic review method (R, s, S) is able to reduce the total initial inventory cost to Rp 2,379,417,274 This shows that the periodic review method (R, s, S) is a method that can help PT. XYZ in reducing total inventory costs. The results of calculations using periodic review (R, s, S) also state the optimal ordering period, reorder point, maximum inventory, and expected value of shortages. An example is the policy for SKU 2, the optimal ordering period is 96 days with a reorder point and maximum inventory of 430 units and an expected shortage of 16 units.

With the design of the periodic review inventory policy (R, s, S), PT XYZ will be able to find out the optimal inventory policy with minimal total inventory costs. This will bring more profits to PT XYZ. Researchers also include a decision support system for PT XYZ so that PT XYZ will be able to calculate the inventory policy in the following year easily because the calculation results can appear automatically through the decision support system (dashboard).

Keywords: Spare Parts, Periodic Review, Overstock, Inventory