

ABSTRACT

PT Suzuki Indomobil Motor (PT SIM) has a low rate performance due to the provision of spare parts that are less effective and efficient. It is because the lack of spare parts is often occurred when the machine is breakdown. Criticality analysis shows that the critical system in PT SIM is welding system. There are eight machines in welding system and 41 components are then chosen for the calculation of spare parts requirements in one period and to calculate the optimum order quantity.

The calculation of optimum order quantity shows that the optimum order quantity using modified EOQ method has a smaller quantity compared to the optimum order quantity using general EOQ method. The total cost of general EOQ model is lower than modified EOQ model when the component has a low price with a low fraction of holding cost, such as ball valve, o-ring, ball bearing, etc. Another condition is the total cost of general EOQ model is higher than modified EOQ model in which the components have a high price with high fraction of holding cost, such as foot switch, wire feeder, etc. The total cost of inventory of all the components using general EOQ method is Rp1.740.311.749 and the total cost of inventory of all the components using modified EOQ model is Rp1.740.158.817. If it is multiplied by the total number of machines, the total inventory cost of the general EOQ method becomes Rp3.053.087.068 and the total inventory cost of the modified EOQ method becomes Rp3.019.597.875. It shows that by using modified EOQ method, company can save 30 million Rupiah and can even reach up to a billion Rupiah if the calculation included all spare parts in the system.

Keywords: *criticality, EOQ model, modified EOQ model, discrete demand, Spare Parts Management*