ABSTRACT

Development of the motorcycle industry in Indonesia has increased. Indonesian society in both urban and rural areas assumes that motorcycle is an alternative for easy, fast, and inexpensive transportation. That is why the demand increases. One of the largest motorcycle manufacturer in Indonesia is Honda. Honda working with PT.XYZ to meet its production needs. PT.XYZ is *General Assembler* whose main activity is *Unit Assembling* and *Painting Only*. In *Painting Only* they paint car body, chassis, parts, and Honda motorcycle plastic body. Paint material control made by PT.XYZ for painting production is not yet achieve the optimal condition. Overstock (excess inventory) on paint materials is usually occured (Hendrajat, 2010). The purpose of this thesis is to conduct a careful calculation using the tools on how much raw materials to be ordered and when the raw materials must be ordered to meet the demand and minimize the overstock (excess inventory) problem that occurred. The method that used in the calculation is *Economic Order Quantity* (EOQ) *Joint Replenishment*. In the existing circumstances, the total cost of inventory that PT.XYZ needed to replenish three paint in March 2010 is Rp3.169.476,92. While using the calculation of EOQ *Joint Replenishment*, the total cost of inventory needed is Rp477.899,96. These results shows that the total cost of inventory can be saved for Rp2.691.576,96 or 85% of the total cost of inventory in the existing by using EOQ *Joint Replenishment*.

Keywords: Efficiency, Inventory Planning, *Economic Order Quantity*, *Joint Replenishment*