

## ABSTRACT

*PT XYZ is one of the leading automotive company in Indonesia, where the company manufactures automobiles and motorcycles. All this time, order system at of CKD (Completed Knock Down) parts PT XYZ is done by combined for all suppliers and all parts. As a result, the number of items available in the warehouse is always more than the number of demand and it cause a high total cost of inventory that must be spent by the company.*

*Problems over stock can be solved by using an inventory system with probabilistic methods Joint Replenishment with Model-P for all of CKD parts that is in Warehouse Parent PT XYZ to determine the optimum ordering interval to produce a minimum total cost inventory with a high service level.*

*The calculation of the total cost of inventory using the Joint Replenishment with Model-P resulted in savings of 13% from the existing conditions for CKD parts with suppliers Mitsubishi Japan, 15% from the existing conditions for CKD parts with suppliers SMC, and 10% from the existing conditions for the CKD parts with suppliers XYZ Maruti.*

*Keyword : Inventory, P-Model, Joint Replenishment.*