ABSTRACT

PT. Sendi Pratama is a textile company with production saroong. The main raw materials required by the company is gray yarn and dyes drugs. There are two kind of gray yarn and 85 kind of dyes drug. The Company is currently applying the system of inventory planning and control, so often the case of buildup materials. The main causes material buildup happened is the changing ammount of demand and the a lot variety of raw material.

By looking at the dynamic demand conditions, where the demand is always be known but the amount is varies, then proposed an inventory planning system that takes into account the amount and time to produce an optimal ordering at a minimum cost. Planning is done by calculating lot size using three methods of calculating the dynamic lot size: Least Unit Cost, Silver Within Meal and Wagner Within Algorithm.

By comparing the three lot sizing methods, obtained the optimal lot respective raw materials of different amounts and at different periods. The third working principle of this method of lot sizing is to find the total cost of the minimum of the most recent period is the planning horizon of each raw material. Because of rounding factor ordering, and a minimum order size requirements then the best solution comes from the methods differ, so that all three methods of Least Unit Cost, Silver Within Meal and Wagner algorithm has the possibility to be the best solution.

Designed a system application lot size calculation is based on the calculation method of determining the third dynamic lot size. The purpose of making this application is to facilitate the company's inventories to planning in accordance with the proposal given.

By doing this calculation lot sizing, proven to reduce the total inventory cost (TIC) of the company's existing conditions for Rp. 20.334.288, - became Rp.7.035.717, -. So that the savings that can be done is 65% or as much as Rp. 13,324,572, -.

Keywords : Dynamic Lot Size, Deterministic Demand, Least Unit Cost, Silver Within Meal, Wagner Within Algorithm.