

## ***ABSTRACT***

*Weaving department of PT. Iskandar Indah Printing Textile produces calico that it's production quantity depend on orders from the its customers. In fact, the company often meet difficulty in defining amount of material order and order time to prevent redundancy of inventory, because it can make the increasing of inventory cost and shortage of inventory which can affect continuity of production activity. In defining amount of material bought, PT. Iskandar Indah Printing Textile doesn't use any method, but it's planning is based on intuition or prediction, and the last period inventory in warehouse is always increasing, so it can make unefficiency of inventory cost.*

*The purpose of this research is to determine optimal order number and time order with a lot sizing application to minimize total of inventory cost.*

*Planning inventory of calico performed by using Lot For Lot, Least Unit Cost, Least Total Cost, Economic Order Quantity, Period Order Quantity, Silver Meal dan Wagner Within Algorithm. Based on calculations performed, and some methods shown the least cost of inventory are Lot For Lot, Least Total Cost, Period Order Quantity, Silver Meal dan Wagner Within, those all shown the same total inventory cost for a year of production, which are Rp 39.796.761.428,00, and total cost of existing condition is Rp 59.075.843.414,00, in a one year production period company can save 32,63% of inventory cost.*

*The research is expected to help company to make decisions of inventory planning and define amount of order and time to order the company should take.*

*Key words: Lot Sizing, Order Number, Time Order.*