ABSTRACT

Peter Says Denim established in 2008 and is a manufacturer of fashion producer. Peter Says Denim has offline stores located in Bandung, Bali, and Canada. Based on the research conducted, the existing problems in the Peter Says Denim are often the case over stock products due to tee calculation process product orders are based on the experience of the production division without planning product needs that cause result in loss of inventory overruns cost.

In this study, the calculation used Hadley-Within Q and P model to determine the number of optimum tee products every ordering, time to reorder, and find out the number of safety stocks of tee products, so that the total inventory cost is minimized, and it can not cause any loss for the company.

The actual condition of the inventory system at the Peter Says Denim generates total inventory cost Rp. 255.965.922,-, while the calculation of Q Model is Rp.94.895.768,- and P Model calculation is Rp. 116.461.430,-. By using a probabilistic Q Model, Peter Says Denim must order 14.392 pcs each ordering time and reordering time when the inventory in the warehouse as many as 9.467 pcs tee products. In P Model, the ordering is done on a fixed period (T) for 0,138 years or every 51 days. The number of expected-maximum inventories every ordering are 23.093 pcs of tee products. In this study, the research is also conducted a sensitivity analysis. Sensitivity analysis was conducted to determine how large the impact of the changes the variables affects the total cost of inventory, reordering point, and safety stock. The variables that are used are the data of tee product sales, ordering cost, and holding cost. The selection of these variables is because these variables are most likely to be changes in the calculation of the total cost of inventory. Sensitivity analysis is done to increase and decrease 5-15 %.

Keywords: Q Model, P Model, Hadley-Within, Probabilistic Demand, Inventory.