ABSTRACT

This study discusses the model development of Wagner Whitin Algorithm. This algorithm gives optimal results compared to other algorithms such as Least Unit Cost, Part-Period, and Incremental Part-Period (Tersine, 1994). Wagner Whitin Algorithm has developed that consider warehouse capacity in previous research. Until now, there is no development of Wagner Whitin Algorithm that consider multi-item, multi-supplier, and limited warehouse capacity.

The model is tested by applying CV Dewi Makmur's problems to the model, because CV Dewi Makmur's characteristics similar to the model's characteristics.On the inventory system of CV Dewi Makmur accommodate more than one raw materials that retrieved from several suppliers. However, it has limited warehouse capacity. Therefore, the model needs modifications for multi-item, multi-supplier, and limited warehouse capacity restriction.

Based on the result of validation, it can be known that the developed Wagner Whitin Algorithm gives better result when compared with the Incremental Part-Period method. Because, the total inventory cost from Incremental Part-Period method is higher than the total inventory cost from developed Wagner Whitin Algorithm.From the result of the calculations, there is a difference in as much as Rp 375.545,-or of 11.5%.

Keywords*: inventory, Wagner Algorithm Whitin, multi items, multi supplier, warehouse capacity*