

ABSTRACT

In an inventory system, the characteristics of a product are very important in determining the right model to be applied. In this study, PT AAA has a processed product, namely corn seed which is included in the perishable item criteria which has criteria such as lifetime. The problem arises because when placing an order, the company does not consider demand which results in the company experiencing rejections from customers, overstocks and lost sales from customers. Therefore, companies need policies in inventory to determine the optimal ordering lot (Q) in order to reduce storage time by reducing average flow time and increasing profit margins by reducing total inventory costs.

The research was conducted using a continuous review policy (Q, r) and fixed lifetime is a policy proposal to obtain an optimal Q value by considering product lifetime in order to minimize the average flow time and the total cost of inventory. In calculating this model, a heuristic algorithm is needed due to the complexity of the normal density function.

The results of the study using this model resulted in a decrease in the average flow time value and the total cost of inventory which was smaller than the total cost of the previous inventory.

Keywords: continuous review (Q,r) and fixed lifetime, heuristic algorithm, lost sales, normal density function, overstock.