

## ABSTRACT

Home industry of Tiga Saudara Bakery in Palembang is an industry whose work relates to the bread industry. Home industry Tiga Saudara Bakery make some products such as “Roti Tawar”, “Roti Zebra”, “Roti 9 merah”, “roti isi 12” and “Roti 577”. Home industry wants to optimize inventory planning with respect to the capacity of each type of bread based on factors out of date it is intended that the number of products to be ordered does not exceed the existing supply.

To overcome this, in this study we will discuss the planning of multy item model for consideration expired factors to reduce the product to be expired. In this model, sample amounts to be booked for a optimum (Q) such as 224 pcs of “roti tawar”, 88 pcs of roti zebra, 110 pcs of “roti 9 merah”, 112 pcs of “roti isi 12” and 162 pcs of “roti 577”. With alternative consideration of expiration in a condition maximum productions (Q<sub>k</sub>) such as 5 pcs of “roti tawar”, 8 pcs of “roti zebra”, 13 pcs of “roti 9 merah”, 16 pcs of “roti isi 12” and 20 pcs of “roti 577”. Based on Q value and Q<sub>k</sub> value, the Total Annual Cost (TAC) produced in each bread such as “roti tawar” with Rp 2.476.056,67, on “roti zebra” with Rp 1.351.582,67, “roti 9 merah” with Rp 1.363.646,19, “roti isi 12” with Rp 1.367.478,37 and “roti 577” with Rp 1.157.265,79. After getting all data, the expected number of input (Q) obtained an optimum number of orders of this type of bread according to considerations expired and can be controlled cost of inventory (Minimized).

**Keywords:** Inventory, Multy Item Model and Consideration Aternative Expiration