

# PERAMALAN PERMINTAAN DAN PERENCANAAN PENGENDALIAN PERSEDIAAN PRODUK ALASKA SCC UNTUK MEMINIMUMKAN TOTAL BIAYA PERSEDIAAN PADA PT XYZ

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## ABSTRAK

PT XYZ merupakan industri proses yang bergerak di bidang industri pengolahan susu. Permasalahan yang dihadapi PT XYZ adalah sering terjadinya *overstock* yang disebabkan sulitnya menentukan jumlah barang yang harus tersedia pada periode selanjutnya karena masih melakukan peramalan berdasarkan permintaan pada periode sebelumnya. Kebijakan ini akan mengakibatkan tingginya resiko kadaluarsa. Untuk mengurangi kesalahan jumlah pembelian digunakan metode peramalan dalam penelitian ini yaitu *Exponential Smoothing*, *Multiplicative Decomposition* dan *Additive Decomposition*. Berdasarkan nilai *Mean Absolute Deviation* (MAD) dari ketiga metode tersebut metode *Multiplicative Decomposition Average of All Data* adalah metode yang terpilih, karena memiliki nilai MAD terkecil yaitu 9379. Setelah dilakukan pemilihan metode peramalan, dilakukan perhitungan total biaya persediaan menggunakan teknik *lot sizing Least Unit Cost* (LUC), *Part Period Balancing* (PPB), *Silver Meal* (SM) dan *Wagner Whitin* (WW). Berdasarkan hasil perbandingan keempat metode *lot sizing* tersebut, diperoleh total biaya persediaan terkecil sebesar Rp. 90.165.365.230,53 dan penghematan senilai 10,24% terhadap kebijakan perusahaan dengan menggunakan metode *Part Period Balancing* dan *Silver Meal*.

**Kata Kunci :** *Multiplicative Decomposition*, *Additive Decomposition*, PPB, SM, WW

**DEMAND FORECASTING AND INVENTORY CONTROL  
PLANNING FOR ALASKA SCC PRODUCTS TO MINIMIZE  
TOTAL INVENTORY COSTS IN PT XYZ**

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**ABSTRACT**

*PT XYZ is a process industry that is engaged in the milk processing industry. The problem faced by PT XYZ is the frequent occurrence of overstock due to the difficulty of determining the number of goods that must be available in the next period because they are still forecasting based on demand in the previous period. This policy will result in a high risk of expiration. To reduce the error in the number of purchases used forecasting methods in this study, namely Exponential Smoothing, Multiplicative Decomposition, and Additive Decomposition. Based on the Absolute Deviation (MAD) value of the three methods, the Multiplicative Decomposition Average of All Data method is the chosen method, because it has the smallest MAD value of 9379. After selecting the forecasting method, the total cost of inventory is calculated using the lot sizing technique Least Unit Cost (LUC), Part Period Balancing (PPB), Silver Meal (SM) and Wagner Whitin (WW). Based on the results of the comparison of the four lot sizing methods, the smallest total inventory cost is Rp. 90.165.365.230,53 and savings of 10,24% against company policy using the part period balancing and silver meal methods.*

**Keywords :** *Multiplicative Decomposition, Additive Decomposition, PPB, SM, WW*