

Abstract

PT X is one of the chemical industries in Indonesia which was established in 2007 and manufactures detergents / soap for office, hotel and hospital laundry services. As one of the growing companies in the chemical industry, PT X needs to be supported by the availability of factors One of the production is the availability of raw materials. The condition faced by PT X today is that in 2017-2019 there are 13 times the lack of arq raw materials for the most desirable products, HS products, causing delays in the production process and resulting in delays in the delivery process to consumers or even sales will be reduced and customer satisfaction is reduced . This study aims to analyze and determine the number of needs, models and calculate raw material inventory and raw material purchasing policies. To determine the raw material requirements arq used linear regression forecasting methods derived from the number of HS product requests. To calculate the inventory of raw materials used the probabilistic method and purchasing policy used the AHP method. Based on the results of the study note that forecasting with linear regression method can be used to determine the needs of raw materials in the coming period. The need for raw materials for the period of 2020 is 5021 kg per year. The right inventory model for the company is the P probabilistic model with a total cost needed of Rp. 202.456,409 per year with a periodic review policy every 18 days and a safety stock of 5 kg. For purchasing policies after analysis using AHP, it is known that the policy of purchasing raw materials using the P model becomes an alternative priority in purchasing raw materials.

Keywords: Forecasting, Probabilistic Inventory, Model Q, Model P, Purchasing Policy, Analytical Hierarchy Process