

***(Prediction System for Planning the Amount of Coffee Production
Using Single Exponential Smoothing Method)***

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ABSTRACT

Coffee is a beverage produced by brewing coffee beans that have been roasted and refined into powder. Many people like to consume coffee as a drink to relieve fatigue or to accompany daily activities. So it's not surprising that currently many companies are starting to compete in the economy, one of which is Bale Kopi Ugaralit company located in Julangalit Village, Julangalit District, Lumajang Regency, East Java. Often there is a production amount that does not meet or exceed for coffee sales, so the company experiences uncertainty over the amount of coffee production that will be sold later. Therefore, it is necessary to calculate the estimated amount of production in order to compensate for future sales and the production process can proceed with the results of the prediction. Thus, the coffee production amount planning prediction system was created as a solution to the uncertainty. This study aims to predict a more measured amount of coffee production by looking at previous production data to increase corporate earnings. With this forecasting system, the company can predict the amount of coffee production that will be sold every month. The method used in this study was Single Exponential Smoothing. The Single Exponential Smoothing method becomes a simple and fast forecasting method, with stable data support and no significant changes over time. The method uses moving averages combined with smoothing factors or smoothing levels. The smoothing factor (α) is used to determine how much weight was given to the past data and the current data in the calculation of the moving average. The results of the coffee production planning prediction system have an MSE error value of 155.58 MAD value of 7.99 and a MAPE value of 18.06% with an actual data value on robusta coffee type of 18.06% and an alpha value of 0.1 in predicting coffee production.

Keywords: *Forecasting System, Coffee Production, Single Exponential Smoothing.*