

**MARKET DEMAND FORECASTING SYSTEM AT “WATU ULO” CLOVE
COMPANY USING SINGLE EXPONENTIAL SMOOTHING METHOD**

Zilvanhisna Emka Fitri, ST. MT (*Supervisor*)

Reza Dwi Prasetyo

Study Program of Informatics Engineering

Majoring of Information Technology

ABSTRACT

Forecasting is one of the most important functions because almost all business decisions are made based on forecasting to predict what will happen in the future in order to increase the number of sales. In this study, cloves became an object of study in forecasting market demand at the "Watu Ulo" clove company. based on the experience of families who work at clove companies who often experience shortages and excess goods and production planning errors made by company managers can also cause company losses. To determine the accuracy of forecasting, the Single Exponential smoothing method is used.

This method as well as the results of this research are used to build a forecasting system to predict the number of clove demands in the future using the single exponential smoothing. Forecasting techniques or methods that carry out the calculation process continuously improve a forecast by averaging the actual data values from the past in a decreasing mode.

The data to be processed is data on the "Watu Ulo" clove company, from 2018 to 2021 and the data was presented monthly. The results obtained from this study are the results of the analysis of the single exponential smoothing method to obtain market demand prediction information and the level of accuracy with MAPE data to find the smallest error. In the next stage, a market demand forecasting system is built using the Single Exponential Smoothing and software maker designed using the PHP with atomic editor and MySQL. The system created is expected to provide solutions for companies in carrying out production, and can

facilitate managers in making decisions in determining how many goods will be produced for the next period, so as to avoid the impact of prolonged losses.

From testing the accuracy of the system, it is known that the accuracy level is 99.995% with an alpha of 0.3. The forecasting system application can be used to help determine how much goods will be produced in the coming period to meet market demand.

Keywords : *Forecasting System, Clove, Single Exponential Smoothing.*