

ABSTRACT

Traditionally, statistical time series methods such as Moving Average (MA), Exponential Smoothing, Regression or Decomposition are used for demand forecasting. This project shows how these demand forecasting techniques have been employed for supply forecasting. Formerly, the company conducted the pineapple supply forecast by a judgmental method and assessment of surveys and historical data. A quantitative forecast method was not applied.

In this project, the historical pineapple supply data of the company was first used to investigate the data pattern. The Coefficient of Variance and **Autocorrelation** Functions were examined to select suitable forecasting techniques. In the results, the data showed a stationary pattern, and so the Moving Average and Simple Exponential Smoothing forecasting approaches were selected. Two years' supply data for 2006 to 2007 were used in the models. The implementation of a new proposed forecasting technique was described and measured for accuracy by comparing the Mean Absolute Percentage Error (**MAPE**). The results demonstrated that **MAPE** was reduced from 29% to 20% by the Simple Exponential Smoothing approach.

The improvement of forecast accuracy was evidence that a quantitative forecasting technique is favorably considered as a part of pineapple supply forecast improvement. Consequently, the new forecast enables the preparation of efficient sales and production planning.