

***Forecast Sales of Tofu at Saudara Jaya Jember Tofu Factory within
Time Series Analysis***

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ABSTRACT

Forecast is part of company plans by estimating or projecting that will happen in the future. Tofu is one of the most popular foods among Indonesian people, made from soybeans extracted and fermentated. This research was conducted at Saudara Jaya Jember Tofu Factory that located in Gebang, Jember Regency within the quantitative forecast method of time series analysis. This research aims to got the best quantitative forecast method, to predict the sale of cooked tofu with a price IDR150/piece, and forecast sales for next year used the best quantitative forecast method obtained from the analysis. Quantitative time series forecast method used Moving Average periods of 3 months, 4 months, 5 months, and Exponential Smoothing with α 0,1 and 0,2. The results are tested for error and forecast accuracy used Mean Absolute Deviation (MAD), Mean Squared Error (MSE), and Mean Absolute Percent Error (MAPE) to obtain the best method. The analysis used historical data on the sales of cooked tofu with a price IDR150/piece for 14 months from June 2021 to July 2022. The results obtained from the best quantitative forecast method for predicted sales of cooked tofu with a price IDR150/piece is a moving average for 5 months period within value error of 23.822.800, MAD value of 4.824.800, MSE value of 42.479.097.563.492, and MAPE value of 11%. Then, method of moving average for 5 months period was carried out for forecast sales of cooked tofu at a price IDR150/piece for the next year from August 2022 to July 2023.

Keywords: forecast, time series analysis, MAD, MSE, MAPE