ABSTRACT

Forecasting production stock is a critical component of supply chain management, as it helps prevent both overstocking and understocking—conditions that can hinder production and distribution processes. This study aims to estimate cement production stock at PT. Solusi Bangun Andalas using the Single Moving Average (SMA) method. The data used spans from 2020 to 2024 and is utilized to project stock levels for the years 2025 and 2026. The SMA method was selected for its ability to process high-dimensional data and deliver reliable predictive performance in both classification and regression scenarios. Historical cement production stock data was analyzed using this method to model dynamic stock fluctuation patterns. The prediction results indicate that the SMA method can provide stock forecasts with a low margin of error, demonstrated by an RSME of 428 and a MAPE of 12. These findings support improved decision-making processes within the company by enhancing efficiency and accuracy. The implementation of this forecasting model is expected to boost operational performance and optimize inventory management at PT. Solusi Bangun Andalas.

Keywords: Prediction, Cement Stock, Single Moving Average (SMA)