Automatic ARIMA modeling for PVC products demand forecasting

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The scheduling for efficient results in PVC plant should be determined based on the products demand which had been correctly forecasted by reasonable methods. However, because most existing forecasting packages need user's knowledge about forecasting, it has been hard for engineers without forecasting knowledge to apply forecasted demand to scheduling. So, this article describes the method of Automatic ARIMA modeling adopted in the forecasting software developed for plant engineers without user's forecasting knowledge. In this study, objective criteria of several stages in Box and Jenkins process are proposed for Automatic ARIMA modeling of PVC demand forecasting. Stages of the process are specification, estimation, diagnostic checking and forecasting. Though the criteria are based on existing probability values, such as autocorrelation function, T-ratio, Akaike's information criterion, Schwarz's Bayesian criterion, the values are specified by PVC demand properties for automatic forecasting software. And the forecasting ability of the developed is evaluated using the past data.