ABSTRACT

OPTIMIZATION OF PRODUCTION PLANNING FOR WEAVING CLOTH TO MINIMIZE COST IN PT. INDUSTRI SONGKET BATUBARA ASAHAN SUMATERA UTARA

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In business and industrial fields, optimization is often carried out included business establishment in order to obtain a good result. The purpose of this research is to minimize production cost, so that the production planning must be done in the right way. Optimization of production planning is needed to anticipate a market mechanism, included every change in a market share. A demand fluctuation of the product which is offered must be observed well, to obtain a market share. In order to be obtain a description clearly concerning the amount of weaving cloth production will be produced for next 12 periods, by forecasting using past data. Forecasting method that is used in weaving cloth production is an ARIMA(Autoregressive Integrated Moving Average)Box-Jenkins model. A result of data after passing identification, estimation and diagnostic tests stage, shows a white noise. The forecasting model that obtained contains a seasonal factor, namely ARIMA(0 0 1)_{12} which is choose on the best criterion by comparing the minimum AIC, BIC and SBC. The forecasting model is expressed by \( Z_t = a_t + 0.777a_{t-12} \). The result and the penalty cost, which emerges as consequence of production speed changing in amount of workers, selling and normal capacity on a company to be formulated into a linear programming, which involves an objective function and constraints. The solution using simplex method giving the result of optimum condition namely, to minimize from production cost.