

ABSTRACT

DM5100 Standard Planning & Control is one of the working units responsible to DM5000 Tool Manufacturing & Services and Production Directorate and DM0000 Detail Part Manufacturing division. The business process applied by this company is job orders, where production starts when there is a request from customers. In fulfilling customer demand, the company's production department has two types of tools to help the production process. This tool consists of fixed assets and consumable tools. Based on historical data on the demand for consumable tools in "2019–2021", there are gaps regarding the procurement or purchase of consumable tools, one of which is the Abrasive Disc. This tool is used to smooth raw materials that will be used in the production process of aircraft parts.

In this study, it is focused on planning optimal needs for consumable tools in order to meet the demands of the Production Department. The proposal is submitted by applying forecasting with a time series approach. In calculating the time series, several methods are used, namely Single Moving Average, Double Moving Average, Weight Moving Average, Single Exponential smoothing, and Double Exponential Smoothing. The method was selected based on the sample test data pattern and the smallest MSE value of all the methods used. From the results of data processing, it is known that the selected method is Single Moving Average Order 2 with an MSE value of 4,991,209. Based on these results, this method has a forecasting result of 2200 units of Abrasive Disc use per period in the next 6 periods from "2022 to 2024".

Keyword – Demand, Abrasive Disc, Forecasting, Time Series