

# After-Market Spare Parts Forecasting at Sandvik Stationary Crushing & Screening

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**Maintaining appropriate stock levels while meeting customer demand is a challenging feat most companies face on a regular basis. Therefore, it is of great importance for companies to have suitable forecasting methods to predict the future demand of their SKUs. In our thesis, we investigate alternative forecasting methods that are suitable for the assortment of SKUs Sandvik Stationary Crushing & Screening in Svedala offers.**

The main focus of the thesis was the after-market products Sandvik has. In the world of forecasting, the demand of these types of products are notorious for being difficult to accurately forecast. This is mainly due to the irregular demand that usually comes with them, making it hard to predict future demand based on historical demand. This is why Sandvik struggles with achieving satisfying forecasting accuracies on their SKUs, and the reason why we conducted the thesis.

In order to propose forecasting methods that are suitable for their products, we decided to divide all products based on historical sales value and demand irregularity. With this, we could classify products based on their monetary value and how easy it would be to forecast each product. The benefit is the ability to see

which items should mostly be focused on and which items to focus less on. For example, if an item has high value and is relatively easy to forecast, focusing on this particular item would have a large impact on the company's financial gains. Compare this to focusing on an item that has a low value and is very difficult to accurately forecast, the benefit would be minimal. Maybe these types of SKUs should not be forecasted at all.

After grouping each SKU in such a way, we tried different forecasting methods for all the items in each class in order to determine the overall best method for each class. The methods that we investigated are: Croston, SBA, Simple Exponential Smoothing, Holt's Linear, Holt's Linear Damped, Naïve method and the Seasonal Naïve method. The method that Sandvik currently uses is called Moving Average 12, where the monthly forecasts are based on the average of the last 12 months.

The results of our study showed that the methods that we investigated made an improvement in forecasting accuracy compared to the current method, Moving Average 12. Out of the seven methods mentioned, Croston, SBA and Simple Exponential Smoothing were the ones that yielded the best results.

The findings in our study could be useful for other companies that have SKUs with similar demand patterns. By classifying their products as we did, it would be easier to appoint different forecasting methods for each class. Hence, possibly improve their forecasting procedures.

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