Forecasting of OEM Components Between Two of The World's Largest Enterprises – Development of a Model

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Forecasting, the technique of establishing predictions and directions of future trends based on analysis of past and present data. Forecasting, a technique that, if successful, enables an enterprise to establish cost effectiveness linked to the demand as well as general competitiveness within the industry. Establishing a successful forecast might conceptually sound as a simple task, but in reality, it is not. A forecast model can be built upon several different options. It can either be developed by looking at the opportunity pipelines, or another model taking well-known forecasting methods into consideration. This is an attempt of developing a forecasting model for two of the world's largest enterprises based on the previously mentioned options.

Visualize working in a world leading company focused on food processing and packaging solutions where you are responsible for the continues improvement of the OEM Components portfolio. One of the responsibilities is to quarterly send a forecast to the main supplier. The procedure for forecasting and planning of the sourced quantity is basic. Non-scientific model is used, hence resulting in either over or under forecasting. The overall theoretical knowledge regarding forecasting within the OEM department is relatively low and two students have therefore been hired to develop a new model.

The hiring manager for the two students had a wish to see if it was possible to develop a forecasting model based on connecting the project opportunity pipelines for the upcoming quarter to both a project size and category. This approach sounded too good to be truth for both us and the manager. This solution would enable the company and their supplier to know the amount of a certain OEM Component that is utilized for a specific product category within an opportunity pipeline. Historical demand and forecast data analyzed from 2020 and 2021 indicated that there were too many layers of approximations and missing correlations and patterns between the different years and quarters in the data. Not finding the necessary data and correlation made this idea not possible to realize. In addition, there are many channels contributing to the total demand for the main supplier and the risk of developing a model which only takes one of them into consideration is to underestimate.

The data results obtained from this analysis can still be useful for the OEM Components team to have a better overview of the different projects and how the components such as valves, pumps and tank equipment's are used. In order to provide a final forecasting model a well-known technique called Exponential smoothing was applied. Exponential smoothing provides a forecast based on historical demand data. This method increased the accuracy of the forecasting procedure and provided a scientific approach to solve the problem. The increased accuracy of the new model contributes to establishing a more secured business environment between the company and their main supplier.