2021-06-31
Gustav Sjöblom
Sebastian Åsberg

Streamlining the Ordering Process at Alfa Laval: A Data-driven Approach

Streamlining the ordering process at a world-leading industrial company has great implications for their bottom-line, how inventory is managed, and how they set goals for the corporation as a whole. Why is it then that such a crucial function is often overlooked? In this case, many answers to the problems can be found inside the corporation itself, but are drowned out in normal day-to-day work. Several recommendations, based on employees extensive experience as well as concepts from the literature, are provided in this thesis that aims to streamline the ordering process, using a data-driven approach.

The ordering process at Alfa Laval, meaning the process from detecting a need for an item to ordering a certain amount of said item, was analyzed in order to find improvement areas. Orders are proposed by Alfa Laval's planning system, JEEVES, which uses a number of parameters to determine what item, and what quantity, is proposed to be ordered. Interestingly, knowledge of specific parameters as well as the overall system has deteriorated over the years, leaving knowledge gaps as employees have moved to new positions or quit.

Currently, a large amount of time is spent by purchasers examining order proposals that are not relevant at all and are subsequently disregarded. This wastes time, as well as decreases the overall trust in the planning system. By interviewing employees, making observations of the current processes, and analyzing data on historical demand, the authors were able to draw several conclusions on how to improve processes and parameters at Alfa Laval. The main recommendations drawn from the analysis can be divided into three parts:

1. **Several order parameters need to be revised**

Legacy calculations need to be updated to better reflect the current situation, and in some cases, there is also potential to make the mathematical models more advanced. This will in turn increase the accuracy of the orders proposed by the planning system.

2. **The items should be divided into categories**

Dividing items into categories based on their characteristics makes it possible to handle them in a way more tailored to their specific needs. The item categories can then be used in a number of ways, saving time and money.

3. **Ordering routines should be created and the knowledge of parameters should increase**

The item categories can be used to create ordering routines adapted to their characteristics, easing the process for the individual purchasers. Further, to maximize the potential of different parameters used by purchasers, training in how parameters work and interact should be carried out.

By implementing the changes proposed in the thesis, Alfa Laval can decrease the total amount of order proposals, and increase the accuracy of the remaining proposals. A more data-driven process will also make managing the inventory easier, as guidelines and control parameters are easier to implement.

Department of Industrial Management and Logistics
Division of Engineering Logistics
Faculty of Engineering, LTH
Lund University