Abels & Kemmner
SUPPLY CHAIN EXPERTS

DIGITAL TWIN PAVES THE WAY TO BETTER SALES PLANNING AND HIGH PRODUCT AVAILABILITY

Customer:
Wolfcraft GmbH

Project:
Select and implement a software solution to complement the ERP system

Abels & Kemmner
Gesellschaft für Unternehmensberatung mbH

Kaiserstr. 100
52134 Herzogenrath

Contact

ak@ak-online.de
+49 (0) 2407 9565-0
www.ak-online.de

In the highly competitive field of tool manufacturers, wolfcraft as a quality-conscious innovator in stationary retail, DIY stores and online retail. Above-average growth rates are achieved annually, particularly in the area of online business, but these are accompanied by very volatile demand. In addition, 'Do it yourself' – Videos shared by influencers in which wolfcraft products are presented and lead to explosive peaks in demand.

Tobias Brasch and Peter Schmidt

The increasing popularity of wolfcraft Products, high availability promises and the very different demand behavior between online and offline markets place the highest demands on the planning as well as the provision of the items.

Digital twin for situation analysis of logistics business model and sales planning convinces

Wolfcraft decided to seek external support from the supply chain optimizers at Abels & Kemmner in order to leverage potential for improvement and secure the growth path. The approach proposed by the consultants of a situation analysis using the concept of a digital twin of the ERP data convinced the decision-makers.

ABOVE

Wolfcraft is considered a co-founder of the DIY industry and is firmly established on the market as a German manufacturer and supplier of hand tools and power tool accessories. The family business was founded in Remscheid in 1949. Since 1965, the central administration and logistics have been located in Kempenich. From here, wolfcraft around 2,500 articles from the fields of machines, workbenches and clamping tables, transport systems, clamping tools, wood connections, power tool accessories, hand tools as well as project-specific complete ranges all over the world.

www.wolfcraft.com

Abels & Kemmner
Gesellschaft für Unternehmensberatung mbH

Kaiserstr. 100
52134 Herzogenrath

Contact

ak@ak-online.de
+49 (0) 2407 9565-0
www.ak-online.de

An essential element of the methodology was the dynamic simulation of the interaction of value stream behavior and planning and control mechanisms in the value chain of wolfcraft based on empirical data. These simulations were accompanied by cross-departmental discussions between purchasing, sales, planning, controlling, product management and scheduling in order to wolfcraft to capture it holistically.

Based on the project workshops and initial simulation attempts, optimization approaches were developed and checked and optimized through simulations in the digital twin. Four central recommendations were made by the joint project team of wolfcraft and Abels & Kemmner.

Recommendation 1: Improved availability through separate planning of sales markets

A key starting point for better forecast quality is planning transparency – what is planned for which market, in what quantities and for what period of time.

With the help of the digital twin, a three-stage sales planning process was developed and checked for feasibility.

The starting point of the new planning process is the breakdown of the demand behavior of an article by market segment. Any article can exhibit fundamentally different demand behavior depending on the sales channel and customer segment, which leads to different forecasts for these sales channels and customer segments. In order to take the different demand behavior into account in the planning process, the digital twin was previously used to check whether it makes sense to divide the articles per customer group and to generate separate planning articles for each segment, which show the respective demand behavior transparently and give the planning department a better overview. In order to be able to easily recognize customer-specific trends, various planning mechanisms were tested and optimized.

In the next step of the new planning process, a so-called base forecast is calculated for the individual planning items based on historical consumption.

Peak demand and other outliers from the past are excluded; soft facts, such as trends and seasonal factors, are added. Checks in the digital twin showed that this can be done very efficiently and partially automated.

In the final planning stage, all types of extraordinary sales campaigns are included, such as promotional and marketing campaigns and discount offers that attract greater customer interest to certain items. The digital twin was used to check at which customer and product hierarchy level planning can be carried out in order to keep the planning effort for sales low but obtain sufficiently precise data.

The result of this planning process is a comprehensive needs picture in which all available information is included and depicted.

Recommendation 2: Change the stockpiling levels

In conjunction with the planning, the logistical decoupling points in the value chain were also checked in the digital twin and optimized as part of a decoupling point analysis. For the analysis, a wide variety of stockpiling strategies were considered in cross-plant simulations and evaluated in terms of high availability and low inventories. Inventory reduction potentials of 36% to 46% were determined without falling below the required delivery readiness. The greatest simulated potential was identified by setting up a supermarket in front of the assembly lines. By using reorder point procedures, the planning effort was significantly reduced.

Recommendation 3: Automatic optimization of forecasts and safety stocks

Further potential for ensuring delivery readiness when stocks are low was found in improving forecasts and calculating safety margins more accurately. Simulation tests in the digital twin showed that the quality of the forecast can be significantly improved if the forecast method to be used and the associated safety stock method are regularly checked for each item and, if necessary, replaced with a more suitable one.

Recommendation 4: Establish a sustainable and automatic rule catalog for master data

Further potential for improvement was identified in the care and ongoing maintenance of the item master data relevant to planning and scheduling. In the digital twin, criteria were developed to determine under which conditions an item needs to be set which master data settings.

Digital twin shows limits of ERP and opportunities in sales planning

Implementing the identified improvement approaches in the existing ERP landscape would have entailed very high expenditure, so a suitable software solution was sought to complement the ERP system.

In cooperation with Abels & Kemmner, a catalogue of requirements was created for a selection process, which significantly supported the search for a suitable tool.