

**How do you generate accurate forecasts for products that do not have a long sales history?**



In the retail industry, new products are launched and new channels or outlets are opened almost every day. This is, however, **a major challenge in terms of forecasting demand and supplying a new outlet or channel in an optimal way.**

So, how do you use the power of artificial intelligence and machine learning to forecast demand and sales without any historical data?

When it comes to analytical methods, there are three groups of algorithms that are used for sales forecasting: the first one is based strictly on **machine learning**. However, to make accurate calculations and generate qualitative forecasts, it requires a whole range of historical data: regarding price, weather, marketing actions, etc.

The second one is **time series analysis**, which works mainly on sales data and its history doesn't need to be as extensive as with machine learning. The third group is the **"naive algorithms"**. Let's take "a moving average" as an example. If that's the case, based on a single day of sales, we can generate forecasts for the future, taking the averaged results as an indicator for the assumed sales volume.



As it is difficult to forecast sales for a new channel, shop or product, it's a good idea **to approach the generation of forecasts using all three steps in order:**

**01** Let's start with **naive methods**. With methods such as „the moving average“, we can respond to the situation and demand as soon as a new product is launched on the market. In doing so, we draw on the knowledge and experience of staff who support the forecasting process with data and information. In this step, the quality of forecasts will not be perfect and we just take it as a suggestion, not a certainty.

**02** The next step is to implement **“time series-based algorithms”**. It is a method that can identify and capture trends, relationships or seasonality based on sales data collected since the launch of a new product. These factors are quite relevant in terms of sales forecasting. The quality and accuracy are much higher than with naive methods, and staff doesn't have to be involved in the forecasting process quite as much. At this point, artificial intelligence is already taking over most of the responsibilities.

**03** The final step is to move towards **ML-based algorithms**. The quality of such forecasts will be satisfactory without having to involve our dedicated staff. Previous predictive processes are the foundation for training machine learning models. Here, forecasts – already fully automatic and based on the model – are generated over specific time horizons, along with shop demands and picking orders.

The more advanced and sophisticated the sales characteristics, the more detailed and historical data we need. However, in the early days of a product launch, it makes sense **to use naive methods** and human support. This does not mean that the forecasts will be pointless – they are not just a reference point for creating shop demands and stocking individual outlets. They are also the foundation for training machine learning models that, fed by sales data, will make fully automated AI- and ML-based forecasting work.



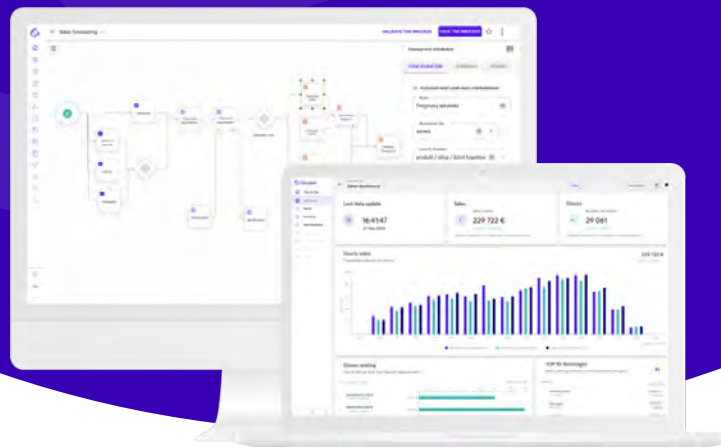
Occubee platform allows you to automatically collect sales data, train Machine Learning models, forecast sales and demand, and generate picking orders and orders to suppliers to optimally replenish stores and warehouses.

Based on data and Artificial Intelligence, Occubee allows to increase sales by increasing product availability in stores and the online channel.

Using Occubee improves the entire supply chain: from store replenishment, to optimal stock levels for offline and online sales channels, to orders to suppliers and production plans.

Short-term sales forecasts for each product and store individually are the starting point for the automatic generation of order picking lists in the warehouses. This makes it possible to optimally replenish the stores and avoid out-of-stocks and overstocks.

Medium- and long-term demand forecasts for the market are used to ensure optimum stock levels, optimize logistics or work in the warehouse and automatically generate orders for suppliers and plan production.



## Occubee | AI platform for Data-Driven Retail



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