Customer Case Study **RETAIL**

OTTO

Automated decision-making along the product life cycle saves OTTO millions

OTTO is a leader in Smart Data in German retail

blue yonder

Forward looking. Forward thinking.

OVERVIEW

Customer
- Online retailer for fashion and lifestyle products, OTTO

Challenge
- Meeting the ever faster-changing market conditions and customer requirements in multi-channel retailing
- Ensure goods availability and avoid delivery times of more than one week
- Identify the cause of goods returns and prevent them

Solution
- Data-based closed loop approach along the entire product life cycle

Product
- Blue Yonder Predictive Analytics Suite

Success, in figures

SALES FORECASTS

Daily input variables	**200**
Weekly analyzed data records	**300 million**
Annual individual forecasts	**5 billion**
Improvement of the forecast quality by	**40%**
Reduction in the surplus stock by	**20%**

GOODS RETURNS OPTIMIZATION

Article returns avoided	**2 million**

DYNAMIC PRICING

The goals set by OTTO in the pilot project for a specific product range regarding sales, revenue and new customer acquisition were exceeded

How can very large data volumes in online retail commerce be handled in a profitable way?

Complex relationships and high customer expectations mean that mail order retail companies are continually looking for new approaches

As a multi-channel enterprise, OTTO finds itself in a competitive environment that has been characterized by increasingly faster changing market conditions and customer requirements for years. The critical importance of online retailing continually brings new challenges with it. Today, decision-making processes are characterized by immense data volumes, a multiplicity of influential factors, a permanent need to act in real time, and great time pressures.

Conventional "static" processes in the area of sales forecasts were no longer able to meet these new requirements. Thanks to the unique Blue Yonder Predictive Analytics software, the individual enterprise can now successfully exploit its data volumes.

About OTTO

OTTO, the German multi-channel retailer, successfully mastered the transition from classical mail-order retailer to online retailer by permanently adapting its business processes and by successfully reorienting its enterprise. Today, the online shop (www.otto.de) is the focus of the retailer's business accounting for 80% of its annual sales from over 2 billion euros. One of the basic prerequisites for this positive development is the company's very extensive product offering. Alongside fashion items and technical products, OTTO also sells furniture, sports articles, shoes, and toys. The online shop has a total of about 4,000 brands and more than two million article items.

The first step:
New directions in sales forecasting

OTTO must accurately manage its extensive product offering for each individual article to ensure business success. In doing so, one of the biggest challenges is being able to predict the foreseen future sales of an article, because profitable goods purchasing is decisive for the overall success of the enterprise. For that reason, identifying the right quantities is an ongoing and continual challenge.

Blue Yonder won the company over with the quality of its forecasts

In order to find a solution that could tackle the complexity of a modern business model full of rich data from diverse channels, OTTO looked at 13 international software providers. Blue Yonder Predictive Analytics Suite was the winner. OTTO supplied each of the software providers with historical data. The retailer was already familiar with the target numbers they expected. In the test, Blue Yonder provided by far the most accurate forecasts. This was the beginning of a close and successful collaboration between the two companies, initially with the aim of improving sales forecasts at the individual article level. The system was "trained" based on historical data with the most diverse input variables, in order to obtain accurate forecasts from its inception. The system checks its own forecast quality with each additional iterative step and draws conclusions from that process. The software uses innovative techniques such as predictive modeling and machine learning to accomplish this.

OTTO is improving its forecast quality by up to 40% using Blue Yonder

OTTO has become a "first mover" in the area of Big Data in the retail space, using Blue Yonder's unique forecasting software. Article sales forecasts using Blue Yonder are a fixed part of the operative business processes at the company today. For each article, per color and size and based on 200 different input variables (for example: brand, price, online placement, stock situation, weather), an up-to-date forecast is made on a daily basis. This means that OTTO provides 300 million data records to Blue Yonder each week. Each year, more than five billion individual forecasts are created in this way. A considerable business success: The forecast quality improved compared to the conventional process by up to 40% per article and overstocks at the end of the season were reduced by 20%!

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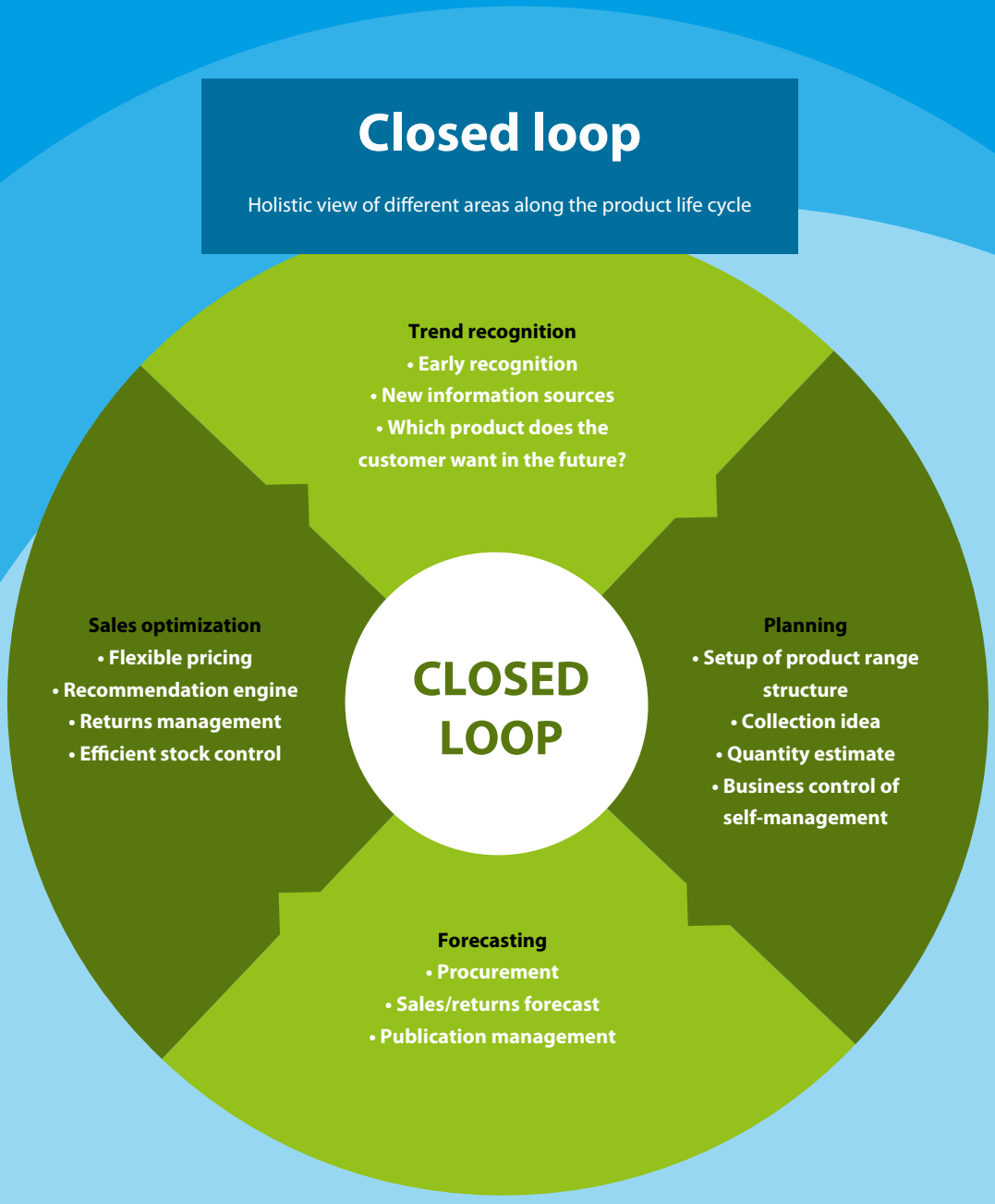
"Using Blue Yonder, our forecast quality constantly improves and the forecasted sales volumes are becoming more and more accurate. They support us in getting ready for future developments, early."

Michael Sinn, Director of Category Support at OTTO

The closed loop approach

Technology-driven product life cycle

Building on the success of the new article sales forecast, OTTO and Blue Yonder identified areas that could profit from the use of the new technologies along the entire product life cycle. The idea of a technology-driven product life cycle, a holistic system for managing the product life cycle, was the result. The control instruments put OTTO in a position to make economically meaningful decisions for each article in a faster and simpler way. The product life cycle was divided into four phases, which, working together, result in a closed spiral (closed loop): Trend recognition, planning, forecasting, and sales optimization. Some of the instruments are already completely integrated in the operative business processes at OTTO, while others are in the final phases. The technology-driven product life cycle is being permanently refined. It reflects the developments of the market environment that are rapidly increasing, and enables OTTO to automate decisions and to attain better business results.



Dynamic pricing: How OTTO attains the optimal price

Today, the requirements of intelligent price management are much greater than during the era of the catalog. The customer always expects a good price, and price transparency for brand name products is close to 100%. The optimal price for a product depends on many influencing factors that can vary on a daily basis. At any point in the product life cycle, there is an optimum price for a product. The challenge is to set it in relation to time.

Big Data supports OTTO in successfully finding the "ideal" price. In a half-year pilot project in the area of menswear, OTTO tested how the Blue Yonder Predictive Analytics software would automate pricing in order to increase sales and revenue. With impressive results: Blue Yonder was clearly in position to simultaneously and significantly optimize sales, revenue, and overall results. Based on the results at this time, a successive rollout is underway on the entire product range, and OTTO expects a decisive improvement of the company's results due to that.

Returns management: OTTO is reducing its goods returns rate

Goods returns by the customer and managing returns have become the number one success-critical factor in online retail commerce. On the one hand, returns result in immense logistical and reprocessing costs and, in the worst case, write-offs of goods that can no longer be stored and shipped. On the other hand, returns are a fundamental part of the business model. The reason is that mail order affords the customer the advantage of being able to try things out in the comfort of their home and then being able to decide whether to buy them, and, if so desired, be able to send part of them back. With this in mind, Blue Yonder and OTTO began a common project to identify the "drivers" and reasons for returns, to quantify them, and based on that, to put measures in place to reduce the returns rate.

The reduction of the return rate led to double-digit million cost savings.

In an expert workshop, working hypotheses were developed, which then were looked at in the project using Blue Yonder software. For example, the development of choice orders (a customer orders an article in more than one size or color), the relationship between the shipping time and return behavior, and the influence of how the article was depicted in advertising were all looked at in the context of a comprehensive data model. Based on the results, numerous measures were undertaken that significantly reduced the rate of returns. For example, the choice orders were able to be considerably reduced by introducing an environmental symbol or reference in the ordering process. In addition, a system was developed to forecast the returns rate of an article at an early time, and to remove high-return, unprofitable articles from the online shop in a fully automated manner, based on an exactly defined system of rules. In total, due to the knowledge generated by the project, approximately two million article returns have been prevented to date.

Exact planning: OTTO is improving its product range

Precise sales forecasts, which OTTO determines using Blue Yonder software, have a direct effect on the product range structure of the company, which is critical for success. That is because the key question for planning is this: What product range structure does our new collection have and which quantities do we need to take into account from a specific article in production? In order to plan the collections, accurate calculations of foreseen sales and order quantities are required. Blue Yonder makes unique analyses available that include historical data, one's own customer data and unstructured data like search requests of otto.de, as well as new information sources like social media and Google. Trends can be recognized sooner and product range planning can be more simply and more accurately carried out.

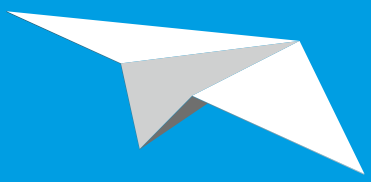
Trend recognition: Together with Blue Yonder, OTTO looks to the future

In an up-coming project, data scientists at Blue Yonder and retail experts at OTTO will look at the use of software in the very early planning phase. One reason is that OTTO, of course, wants to know as early as possible, which articles are desired by customers in future and which trends are foreseen. Predictive analytics can support OTTO's trend experts in a meaningful way there. Their decisions today are based to a large extent on the great treasure trove of their personal experience with store checks, visits to trade fairs and production markets, as well as historical data. In future, this information will be more precisely analyzed by looking at the analysis of additional information sources such as Google and social media, with the help of Blue Yonder Predictive Analytics.

Blue Yonder

Blue Yonder helps enterprises gain valuable knowledge for automated decision-making processes and attain profitable growth from their data volumes. The Blue Yonder development team consists of data scientists and software developers who all have a science background and have gained their deep knowledge at international research institutes such as CERN. Based on our many years of experience with enterprise software and software as a service (SaaS), we develop solutions that are used for demanding tasks in business and industry.

Specialized enterprise units and departments can work easily with predictive analytics using our sector-specific forecasting software and data-driven apps. We enable enterprises all over the world to become predictive enterprises through this democratization of Big Data. We use innovative techniques such as predictive modeling and machine learning to create forecasts of the highest quality and to automate decision-making.



SaaS solution for predictive analytics

Would you also like your enterprise to become a predictive enterprise? Then contact us!

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