

Supply Chain: Demand Forecast & Replenishment

Increase profits and ensure optimal
stock availability for every store

BlueYonder
Best decisions, delivered daily



Your Challenges

Profitable retailing has always been about economies of scale. The ultimate goal for retailers is a competitive business with increasing sales, improving revenues and profitable growth.

In a market with lowering margins, increasing complexity, fierce competition and growing customer expectations, being able to quickly respond to changing market needs is key. This is only possible by accurately forecasting future demand at a very granular level – per SKU, per day, per location. Optimizing replenishment decisions also ensures a balance between stock availability and waste.



A balance of stock and waste levels is harder to maintain because of the following factors:



Growing execution gap

Inability to align replenishment decisions with the business strategy, e.g. write-offs or out-of-stock rates



Scalability issues

Increasing numbers of formats, assortments and channels



Demand unpredictability

Inability to predict true customer demand with sufficient accuracy, given the complexity of the supply chain itself



The imperative of customer experience

Operationalizing brand values at SKU and store levels with local assortments

... and these are the typical symptoms of struggling retail supply chains:



Revenue loss

Underestimating demand leads to loss of sales due to increased out-of-stock situations



Depressed margins

Overestimating demand leads to write-offs, especially for perishable goods



Capital lockup

Overestimating demand leads to storage costs from excessive safety stock



Time and resources

Not accurately estimating demand leads to frequent manual interventions

Demand Forecast & Replenishment

Our Artificial Intelligence (AI) solution delivers probabilistic forecasts based on hundreds of different variables including weather, promotions, and holidays. This allows the business strategy to automate millions of daily replenishment decisions across products and stores.

Demand Forecast & Replenishment determines the optimal order quantities for every product and every store, every day without the need of unnecessary manual intervention. These order quantities are based on a weighted optimization of competing goals such as waste and out of stocks.

Our Demand Forecast & Replenishment solution is highly scalable, delivering order proposals in advance, freeing up resource to deliver your brand promise and meet changing customer expectations.

Benefits



Speed to value

Optimization of processes and data



Precision

KPI-driven forecasting and replenishment



Automation

Reduced cost to serve



Demand-driven

Customer aligned supply chain



Innovation

Self-learning supply chain systems

Up to

80%

out-of-stock
reductions

10x

increased product
availability

50x

fewer manual
interventions





The Capabilities of Demand Forecast & Replenishment

Demand Forecasting

What it does

Our forecasting engine provides a robust yet unbiased view of customer demand. It calculates probabilistic forecasts for end-to-end agile business processes with millions of item/stores or channel combinations.

What it delivers

- Forecasting based on not just the sales data but weather, promotions, holidays etc
- Demand predictions for new products based on descriptive master data
- Probabilistic view instead of “point projections”

What are the benefits

- Improved forecasting accuracy by machine learning techniques proven in retail
- Demand planning for profitable and localized customer experience
- Efficient supply chain for omni-channel shopping

Replenishment

What it does

The Blue Yonder solution focuses on KPI performance. The replenishment algorithms are based on a weighted optimization of competing goals, without the need to compromise on operational constraints.

What it delivers

- Recommended order quantities based on optimal trade-off between competing cost factors
- Constraints-led (e.g. packs, pallets, etc.) final order quantities
- Simplicity in monitoring performance and exceptional situations

What are the benefits

- Effortlessly reduces inventory according to sales and service level strategies
- Improves sell-through and inventory turns right down to the item-level
- Increased operational efficiency in supply chain

Inventory Optimization

What it does

Our solution enables inventory optimization based on a retailer's stock management policies. This ensures that the replenishment and stocking decisions based on that optimization, also achieve category and financial planning goals, on a daily basis.

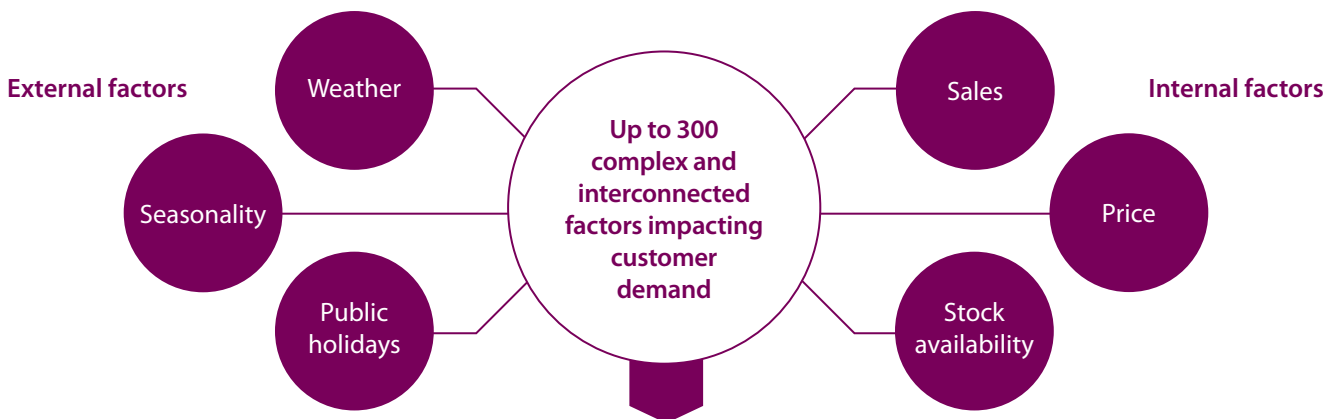
What it delivers

- Consistent and efficient inventory management
- Reduces retailer's cost to serve (e.g. inventor cost, wastage, etc.)
- Supply chain performance monitored at item-level

What are the benefits

- Consumer demand-driven supply chain
- Optimization based on economic and supply chain constrains
- Better customer experience

How Does Demand Forecast & Replenishment Work?



Determining the demand forecast

- Prediction of the demand for each individual store, product and day
- Using a detailed probability density function calculation

Strategic and operational alignment

- The retailer's margin and revenue expectations are applied
- The calculation is optimized to meet strategic KPIs (e.g. out-of-stocks, waste or inventories)
- Consideration of stock levels, deliveries already scheduled, packaging and minimum order quantities

Decision delivery

- Daily delivery of optimized replenishment decisions for thousands of products in hundreds of stores
- Self-adjusting updates with new data

System integration

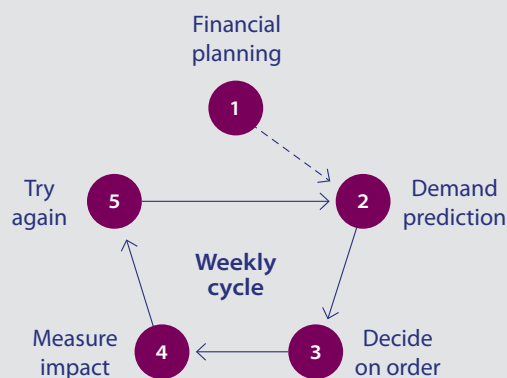
- Ready-to-use software as a service
- Central management of security and maintenance
- Automatic rollout of new features and improvements
- Easy integration into existing ERP/SCM systems via standard API

Why Our Approach Is Different

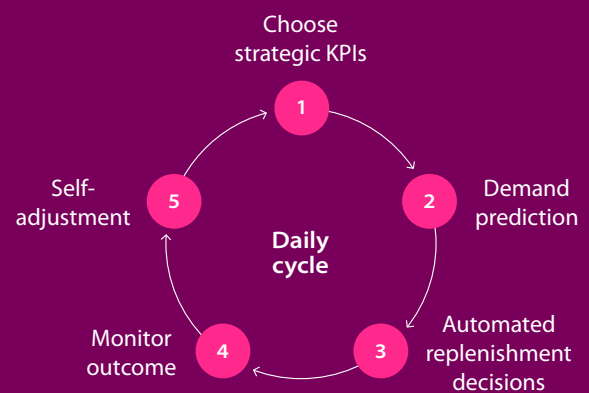
An important differentiator of our Demand Forecast & Replenishment solution is the level of granularity supporting the order recommendation.

Traditional approaches predict weekly demands, ours delivers daily recommendations per SKU, per store – essential for the fresh and perishable food category. Order forecasts are made daily for up to 14 days in the future. This frees up retailers' time to deliver their brand promise and meet changing customer expectations.

Manual Approach



Blue Yonder automated approach



Success Story

Kaufland: Fresh Food Replenishment

Challenge

Demand uncertainty with short-life fresh products led to safety stock overestimations and an increase in waste.

Solution

Using our Demand Forecast & Replenishment solution, Kaufland achieved a high degree of automation for centrally planned daily orders. Moreover, production processes could be closely integrated into the supply chain as a whole, creating even more synergies with demand planning. Daily decisions are now aligned with the business strategy.

Results

- Minimized workload at an individual store level due to a centralized and automated ordering process
- Increased product availability for customers and, at the same time, considerably reduced write-offs

“For our organization, it is critical to have the right amount of fresh meat available for the customers in each store. Automated replenishment based on accurate sales forecasts plays a key role. Working with Blue Yonder has resulted in optimizing our processes significantly.”



Ralph Dausch
Executive Board Member of
Fresh Meat Products International, Kaufland

What Makes Blue Yonder Different?

We enable retailers to increase customer value and quickly generate higher profits by using market-leading AI to automate complex decisions across the entire value chain.





Unparalleled speed of delivery

No other company can convert multichannel demand into revenue as quickly – Blue Yonder can deliver its solutions between three and six months



Use of existing systems saving time and money

Through AI, we enable retailers' existing solutions to perform better and more accurately – removing the cost and time involved in replacing legacy systems



Liberating stores to deliver the best customer experience

Our innovative AI software delivers automated decisions, liberating each store to deliver the best experience for its customers



Proven expertise in operationalising AI for retail

From source to shelf, Blue Yonder operationalizes machine learning to optimise the performance of products in terms of throughput, margin and customer availability



World leader in innovating and delivering AI

Our solutions are delivered by one of the largest team of retail-experienced data scientists in the software industry who are continually pushing the boundaries of AI knowledge



About Blue Yonder

Blue Yonder, a JDA company, is a leading provider of artificial intelligence (AI) and machine learning (ML) solutions that enable retailers, consumer products and other companies to intelligently transform their operations and make more profitable, automated business decisions that deliver higher profits and optimized customer experiences.

With AI/ML learnings embedded into their core supply chain and merchandising processes, companies can respond quicker to dynamic market conditions and customer preferences, resulting in increased revenues and margins.

Developed by one of the largest teams of PhD-level data scientists dedicated to retail and the supply chain, Blue Yonder's AI/ML solutions deliver more than 600 million intelligent, automated decisions a day.

Blue Yonder was founded in 2008 in Karlsruhe, Germany, by former CERN scientist Professor Michael Feindt and acquired by JDA Software in 2018. The company has received numerous awards, including the Experton Big Data Leader Award 2016, the BT Retail Week Technology Award, the IGD Award 2017 for Supply Chain Innovation.

Blue Yonder provides its solutions through Microsoft Azure and was named one of Microsoft's retail partners of the year in 2018.

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