



E-Book

# Living the Future:

How AI-Enabled Demand Planning  
Is Changing the Way We Work



# Demand Planners Are in a World of Pain

Predicting the future is a difficult job. For demand planners who don't own a working crystal ball, it's only getting harder. Market trends are volatile and consumer preferences are continuously evolving. Global supply chains are precarious at best. Data volumes are exploding, and legacy technologies are more of a hindrance than a help. All of this means that demand planners are consistently forced to choose between accuracy and speed — you can never have both, and often you get neither.



of supply chain planners are stressed and overworked <sup>2</sup>



of planners' time is spent dealing with data quality issues <sup>3</sup>



of planners cite the number of system applications as barriers to collaboration <sup>4</sup>

# The Pain Matrix of Demand Planning

Where exactly are demand planners hurting? The truth is, they're fighting on all fronts. According to a talent survey by Supply Chain Insights, demand planning is one of the most in-demand job functions in the supply chain, second only to data science.<sup>1</sup> As a result, 60% of planners report feeling stressed and overworked.<sup>2</sup>

Overstretched and undertooled, demand planners are suffering from record burnout levels. The industry-wide skills shortage means they're expected to do much more with much less, all while battling a host of dynamic and compounding challenges.



## Critical Technology Challenges

### Siloed Data

Data is siloed, inaccessible, and difficult to harmonize. There's no single source of truth upon which to base decision-making.

### Disparate Legacy Solutions

Supply chain technology has never been platformed or consolidated. Disparate legacy point solutions don't talk to one another, forming a significant barrier to effective collaboration. Stakeholders and processes are disconnected.

### High Cost of Scaling

Existing computing architecture is limited and unscalable, resulting in hours of batch processing work. Planning teams can't respond quickly to dynamic market shifts.



## Secular Planning Challenges

### Supply Chain Instability

87% of supply chain executives reported disruptions in the past year.<sup>3</sup> Geopolitical turbulence, shortages, and extreme weather events compromise supply chain stability.

### Volatile Customer Demand

Fast-changing consumer preferences and the rise of omni-channel ordering require more agility and decision-making speed than ever before.

### Rising Costs

Exponentially increasing COGS and expedited shipping costs to meet demanding delivery schedules make it difficult to balance inventory mixes to optimize profitability.



## Demand Planning Challenges

### Limited Modeling Capabilities

Forecasting solutions are hitting accuracy and efficacy plateaus. Demand planners are unable to model complex problems and scenarios based on market realities.

### Manual Interventions

Existing solutions do not allow demand planners to forecast across different horizons and products, resulting in increased manual interventions to simulate complex scenarios.

### Skills Shortage

The demand planning skills gap shows no sign of abating. The lack of demand planners means small teams are under immense pressure to deliver big results without the required resources or support.



# The Solution: AI-Enabled Demand Planning

To the immense relief of demand planners and leaders everywhere, help has arrived! Artificial Intelligence (AI)-enabled Demand Planning is fit for purpose and already rolling out across the industry, delivering rapid data-driven decision-making, unprecedented forecasting accuracy, predictive capabilities, and unparalleled speed to the demand planning function. According to Gartner, 45% of supply chain organizations are already using AI-enabled demand forecasting technology, while 43% plan to within the next two years.<sup>6</sup>

# What Is AI-Enabled Demand Planning?



AI-enabled demand planning, also known as “Cognitive Demand Planning,” involves the application of advanced AI, Machine Learning (ML), and cloud computing to significantly enhance demand planning capabilities.

AI’s predictive capabilities are a natural fit for the forecasting function. Because AI is so good at analyzing large data at speed and scale, AI-enabled demand planning allows demand planners to compress the time horizon between planning and decisions to almost zero, running hundreds of simulations in a matter of minutes as opposed to hours or days. As a result, teams can simulate the impact of real-world factors on demand in real-time, as opposed to sticking to fixed planning cycles. This enables an unprecedented level of decision-making responsiveness and agility, and gives demand planners granular insights into the best way to optimize their inventory mix to fulfill customer demand, maximize revenue, navigate disruption, and mitigate ongoing cost increases from moment to moment.

AI-enabled demand planning also delivers enhanced forecast accuracy. McKinsey expects AI-enabled forecasting to reduce errors by 30-50%.<sup>7</sup> AI and ML’s ability to detect patterns and disruptions means AI-enabled demand planning solutions are better at identifying black swan or outlier events early, helping demand planners make quick adjustments to plans, even across multiple markets.



# How AI-Enabled Demand Planning Is Revolutionizing the Industry

From significantly increasing forecasting accuracy to radically compressing planning horizons and beyond, Cognitive Demand Planning is the tool demand planners have been waiting for, and it's delivering unparalleled results.

## Imagine a World Where You Can...

### Work From a Single Source of Truth

AI is exceptional at harmonizing large swathes of data. AI-Enabled Demand Planning leverages AI and ML to bring together all data sources, both internal and external, including real-time variables such as weather, shortages, and political events to supercharge collaboration and cohesive decision-making.

### Leverage Unlimited Processing Power

A fully secure cloud-based platform means you can access unconstrained computing power, modeling real-world complexities with ease. No more batch work. No more manual interventions and overrides. No more spreadsheets.

### Respond to Market Events in Minutes, Not Hours or Days

AI-enabled demand planning allows you to simulate real-world conditions on demand based on the data of your choice. Then, you can evaluate hundreds of scenarios in minutes, allowing you to respond to the most nuanced shifts in the market while adeptly navigating disruption. As a result, you can compress the planning horizon to minutes, as opposed to hours or days.

### Increase Forecast Accuracy by 12%

AI-enabled demand planning lets you unlock the predictive power of industry-leading AI and ML to supercharge forecasting accuracy. While existing solutions run on a three-dimensional planning unit, limiting the ability to model real-world complexity, AI-enabled demand planning leverages the best of statistical forecasting, ML, and deep meta-learning algorithms to supercharge forecast accuracy to a degree never before seen in the industry.

# What To Expect From Cognitive Demand Planning

The benefits of Cognitive Demand Planning are so extensive that the technology is set to become the industry's new standard.

Here's what demand planners have to look forward to...



## Continuously Optimized Forecast Accuracy

Most tools restrict solutions to a single algorithm and an either/or choice between AI and ML or statistical forecasting. Cognitive Demand Planning combines the best of all these approaches, for significantly improved forecast accuracy. ML's power to learn means accuracy increases further over time.



## Plans & Forecasts On Demand, In Minutes

Existing solutions do not allow demand planners to forecast across different horizons and products. Due to their time intensity, planning runs happen on fixed schedules, negatively impacting planners' ability to respond to market changes or impactful events moment-to-moment. Cognitive Demand Planning means data, plans, and forecasts are available on demand, and completed in minutes.



## Consolidated Forecasts Across Portfolios

Cognitive Demand Planning facilitates a consolidated view of all forecasts across entire portfolios and multiple horizons in a unified planning process. This allows demand planners to collate risk and demand assumptions from across the enterprise, with integrated collaboration and scenario-planning tools. Greater visibility, better predictive capabilities, and more transparency result in a more resilient, agile supply chain.



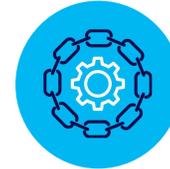
## Flexible & Customizable Forecasting Algorithms

Forecasting solutions have reached an accuracy and effectiveness plateau, with limited customizability and extensibility. Existing tech stacks are rigid and hard to scale, hampering innovation. Cognitive Demand Planning is scalable and flexible, allowing for the pairing of custom algorithms with vendor-provided algorithms for supercharged forecasting performance, and allowing in-house data scientists to innovate continuously.



# Is It Time To Make the Switch?

If you answer “Yes” to more than three of the following challenges, it’s time to consider an AI-enabled demand planning solution.



## Business Challenges

You are constantly firefighting to meet customer demands.

You often experience stockouts, overstocks and/or increased waste.

Your customer experience and brand equity is taking a hit due to supply chain issues.

## Planners' Challenges

You are constantly working outside the planning system, adjusting forecasts manually for downstream use.

Your planning decisions take days, weeks or months — not minutes.

Your scenario planning is manual, effort intensive and effected by planner bias and/or human error.

Identification and configuration of causal factors or influencing factors are time consuming, manual and way behind real world situations.

## Technology Challenges

The custom models created by your data science team continue to live outside enterprise planning and are difficult to integrate.

IT costs of your enterprise planning system keep increasing.

You face difficulty and downtime when trying to introduce new capabilities or upgrade your enterprise planning solution.

# Accurate, Agile, and On-Demand: Introducing Cognitive Demand Planning by Blue Yonder

Our Cognitive Demand Planning solution leads the industry in AI-enabled demand planning, leveraging advanced AI and ML technologies to deliver a proven advantage. With rapid time-to-value and non-disruptive implementation, you'll have quick access to its transformative benefits, scaled into your operation at your own pace.



## Manage Complexity and Boost Accuracy With State-of-the-Art AI/ML

Autonomous Mix & Match allows you to blend AI/ML with proven algorithms and statistical forecasting in a single solution. Handle multiple complexities, like products and markets, and combine the best techniques to boost accuracy and quality.



## Respond Faster With Real-Time Simulations and Scenario Planning

Compress planning horizons from days to minutes. Simulate real-world market conditions with ML Causal Simulation, and configure new causals into the ML model on demand. Deep meta-learning enables AI-Driven Feature Engineering, which automates causal factor identification and their importance to a particular forecast.



## Build Supply Chain Resilience With Seamless End-to-End Collaboration

Collaborative Consensus Planning allows you to collate inputs from all key stakeholders, including sales, marketing, finance, and operations, to optimize and expedite your demand plan. With a single cloud-based source of truth by Snowflake Data Cloud, you can align stakeholders to a unified planning solution for seamless end-to-end collaboration.



## Create and Deploy Customized and Extended Solutions at Scale

Build, test, and deploy your own customized and extensible ML models at scale with ML Ops Studio so you can innovate at your own pace, with full enterprise-scale support for development, testing, deployment, integration, and security.

# How Do I Know if My Business Is Ready for Cognitive Demand Planning?

At this stage, you don't. But never fear — our Blue Yonder experts have the knowledge and experience to help guide you as you chart a course toward the future of demand planning.

To get you started, connect with a Blue Yonder expert today. Tell us more about your unique challenges and needs, and we'll get you set up with the tools you need to leverage Cognitive Demand Planning to your business's full advantage.

## The Results Speak for Themselves

Up to  
**2%**  
increase in revenue\*

Up to  
**1.5%**  
increase in gross margin\*

Up to  
**50%**  
reduction in costs and expenses\*

Up to  
**30%**  
increase in savings through  
one-time inventory reduction\*

Up to  
**75%**  
average improvement in  
planner efficiency\*

Up to  
**12%**  
improvement in forecast  
accuracy\*

\*Internal Blue Yonder research

# Learn More About Cognitive Planning

Need to know more? Here are some additional resources you may find useful.

[Speak to a Blue Yonder Expert](#) →



[Learn more about Blue Yonder's Cognitive Solutions](#)

[Get more must-haves for supply chain resilience](#)

[View the Blue Yonder Cognitive Demand Planning Solution Sheet](#)



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[blueyonder.com](https://blueyonder.com)

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