



# Building outside-in processes for better supply chain planning

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# Executive summary

This report summarizes the outcomes of the Spark Initiative, a think tank of supply chain experts and industry leaders who are exploring a revolutionary outside-in approach to supply chain planning. With the Spark Initiative, OMP wanted to help members of the OMP Community to share, learn, and test outside-in capabilities using state-of-the-art technology. By joining forces, participants in the Spark Initiative could accelerate their understanding of how outside-in planning can be applied to real-world cases.

## 1. Executive summary

### Launch and objectives

The Spark Initiative was launched in November 2022, with active support by key OMP customers such as Dow, General Mills, Land O'Lakes, and Nestlé. An **advisory board** was created to help select real-life cases that would help validate key concepts of outside-in planning. After an initial joint training round, **two test cases** were identified and tested. The results of these tests and the learnings from the entire initiative are summarized in this report.

### Test cases and results

**Nestlé's** test case revolves around the challenges of forecast accuracy for new product introductions. The test showed it was possible to leverage POS data to dramatically reduce demand latency and improve forecast accuracy, and highlighted the potential of increased visibility and cross-departmental collaboration.

**General Mills'** test case aimed to decrease raw material volatility by reducing latency in the supplier forecasts. While a direct translation of finished goods demand into raw material demand offered a reduced latency and supports the value of latency reduction, supplier data quality shared across ecosystems was discovered to be a main contributor to material volatility due to its impact on raw material forecasts.

### Insights and collaboration

In both cases, the discussion of outside-in concepts and the collaboration with other departmental roles led to **new insights** and opened up **opportunities** for further improvements in collaboration, with a unified visibility of the river of demand as an ideal to-be state. The work included the prototyping of cross-functional dashboards supporting realistic collaboration scenarios, examples of which are included in this report.

### Conclusion and future directions

The Spark Initiative participants concluded there is **clear value** in applying outside-in planning principles to transform the way we plan supply chains. While data quality remains a challenge for most companies, an innovation mindset, the willingness to iterate often and think outside the traditional planning paradigms are key success factors.

Available technology will support further experimentation, but OMP is **committed** to continue working on co-innovation in this area to design and include outside-in functionality in its Unison Planning™ offering.

# 2 Why outside-in planning?

Across the globe, supply chains are under pressure. More disruptions, more uncertainty, and increasing market pressure drive the search for planning processes that help companies become more agile and resilient.

How can outside-in planning help in situations where the current planning approach seems to fall short?

### 2.1 Dealing with disruptive changes

Over the last few years, global events and market dynamics have sent a shockwave through the supply chain planning landscape. Changes in market dynamics have transitioned beyond the sudden unavailability of a critical material or an unexpected peak in demand for a finished product. The Covid-19 crisis transformed how people buy, forcing us to rethink our approach to distribution and forecasting. Logistics challenges and geopolitical events have forced us to consider local sourcing from multiple suppliers to reduce risk.

To define an objective metric of these challenges, the Federal Reserve Bank of New York defined its **Global Supply Chain Pressure Index** (GSCPI <sup>1</sup>), which clearly shows the increased intensity of disruptions since early 2020, which continues to this day:



As disruptions became more frequent and impactful and the pressure on our supply chains increased, a number of **limitations of current planning processes** became evident. Planners discovered that current planning practices were designed to perform well within a certain rate of change in material availability and market demand. As the river of demand evolved from a slow-moving stream to a maelstrom of confusing information, and previously exceptional situations became the norm, planning processes were stretched beyond their limits.

### Example scenarios

#### Example 1: Demand latency and the bullwhip effect

Every supply chain relies on a **demand forecast** to decide what to produce. If we are good at predicting demand a few weeks or months in the future, we can build and distribute the right volume of product to the right channel, with a minimal amount of excess inventory and little risk of lost sales. In a predictable market, replenishment orders received from our channels are an adequate proxy for the actual demand – except in a disruptive and rapidly changing market. Imagine a sudden peak in consumer demand.

The **latency** between the market signal from the final consumer and the moment it becomes visible for us as an order means we will have produced too little, and our safety stock may be insufficient for keeping up with demand. But as the replenishment orders come in, we may interpret the increased demand as a trend instead of a one-time peak and decide to increase production – building up excess inventory that will never sell. The latency has now created a **bullwhip effect**.

#### Example 2: Supply volatility and the bullwhip effect

The supply of raw materials uses an **estimated lead time** to translate a planned consumption by our supply chain into a procurement order to one or more suppliers. But what happens if that lead time is not realistic because the supplier is unable to source a critical component, or because the delivery of the material is delayed by port congestion or the absence of containers for transport? If the estimated lead time is no longer a reliable proxy for the actual delivery delay, safety stocks will not be able to buffer the variability and a similar **bullwhip effect** will manifest itself on the supply side.

### Adapting our planning processes to the new normal

There are no signs that the increased supply chain pressure is a passing phase. Rapidly changing markets and increasing customer expectations keep up the pressure on the demand side, while the supply side is affected by price volatility and shortages in materials and labor. There are **no simple solutions** like stocking up on raw materials or producing more finished goods inventory. Companies need to keep inventory and cost under control, while maintaining the same service level. In addition, new sustainability regulations are likely to make the challenges for planners even more complicated, introducing additional KPIs to optimize.

For decades, our traditional organizational structures, roles, and processes have been optimized for **efficiency**, but not necessarily for **agility**. We may have ended up designing for a steady state that no longer exists. Outside-in planning advocates for a unified perception of the state of the business, driven by demand, enabling all stakeholders to have a simultaneous view of the supply chain and make balanced decisions.



# THE COMPREHENSIVE 39-PAGE COMPLETE REPORT CONTAINS THE FOLLOWING ADDITIONAL SECTIONS:

## 2. Why outside-in planning?

Across the globe, supply chains are under pressure. More disruptions, more uncertainty, and increasing market pressure drive the search for planning processes that help companies become more agile and resilient. How can outside-in planning help in situations where the current planning approach seems to fall short?

## 3. Spark Initiative

In November 2022, OMP launched the Spark Initiative, a think tank of supply chain experts and industry leaders, to explore the potential value of outside-in planning. With this initiative, OMP aimed to improve decision-making for its customers by introducing a new way of thinking about supply chain planning.

## 4. Test case #1: Nestlé: optimizing new product introductions

Nestlé's test case revolves around the challenges of forecast accuracy for new product introductions, where little historical data is available to build a realistic forecast. Latency in getting real consumer demand signals results in a longer period without any realistic guidance for the supply chain. The test showed it was possible to leverage POS data to dramatically reduce demand latency and improve forecast accuracy, and highlighted the potential of increased visibility and cross-departmental collaboration.

## 5. Test case #2: General Mills: improving supplier resilience

General Mills' test case aimed to decrease raw material volatility by reducing latency in the supplier forecasts, as fluctuations in material availability are causing many supply chain disruptions. While a direct translation of finished goods demand into raw material demand offered a reduced latency and supports the value of latency reduction, data quality was discovered to be a main contributor to material volatility due to its impact on raw material forecasts.

## 6. Insights and recommendations

What did we learn from the Spark Initiative? Has the value of outside-in planning become clearer? We've listed 5 concrete tips on how you can take some of our learnings and apply them to improve your own supply chain.

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Questions?  
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