BUSINESS TALENT GROUP

Flowcasting: Digitally Connecting the Retail Supply Chain

How retailers can decimate out-of-stocks with consumer centric, continuous planning.

BY MIKE DOHERTY

About the Author

Mike Doherty is a supply chain educator and consultant, co-author of *Flowcasting the Retail Supply Chain*, and co-founder of Demand Clarity Inc. His client, Princess Auto Ltd, was the first retailer to fully implement the Flowcasting process and manage its entire, extended business to a single set of numbers. Visit him online at demandclarity.com.

TO LEARN MORE OR
DISCUSS A NEED:

info@businesstalentgroup.com
(646) 530-8404
businesstalentgroup.com

About Business Talent Group

BTG

Business Talent Group (BTG) is the leading marketplace that connects independent management consultants, subject matter experts, and executives with top companies to solve their biggest business problems. BTG provides just the right on-demand talent needed—on-site or remote, part-time or full-time, individuals or teams, anywhere in the world.

Introduction

The retail supply chain is under siege. A number of recent trends have placed significant onus and pressure on retail supply chain performance. These trends include the always-connected consumer, a shift in store formats and missions, the rise of multi-channel commerce, localized assortments and planning, value chain transparency, and the rise of cloud-based computing, to name some key ones.

A consumer-driven, digitally connected and integrated, end-to-end supply chain planning process can help retailers and consumer packaged goods manufacturers relieve some of these pressures. In this eBook, we'll review leading practices for improving supply chain agility—and outline how to digitally connect the retail supply chain to maximize revenue and margins while removing costs and simplifying planning activities across the entire value chain.

The Case For Change

What do these trends tell us? The status quo will inhibit a retailer's ability to meet the demands of the consumer. In addition, retailers that don't innovate will be faced with poor supply chain performance and the resulting margin erosion and profit loss. Additional factors such as price-matching, show-rooming (when customers review an item in store, then buy it online), and the rise of omnichannel commerce are also contributing to the squeeze on retail performance.

To combat these pressures and respond to consumers' increasingly demanding requests, retailers have been working with their manufacturing counterparts to improve supply chain agility and responsiveness. Additionally, to address retail out-of-stocks (which have remained stubbornly at 8% - 15% for decades) retailers and manufacturers are increasingly collaborating in order to better plan and execute. At the same time, CPG manufacturers are transforming their supply chains to respond to the demands of consumers and their retail customers. They are investing in processes and technologies to become "demand-driven"—ultimately attempting to drive all planning and execution from as close to the consumer as possible and to connect the planning process into a single, digital model of the business.

Leveraging POS Data

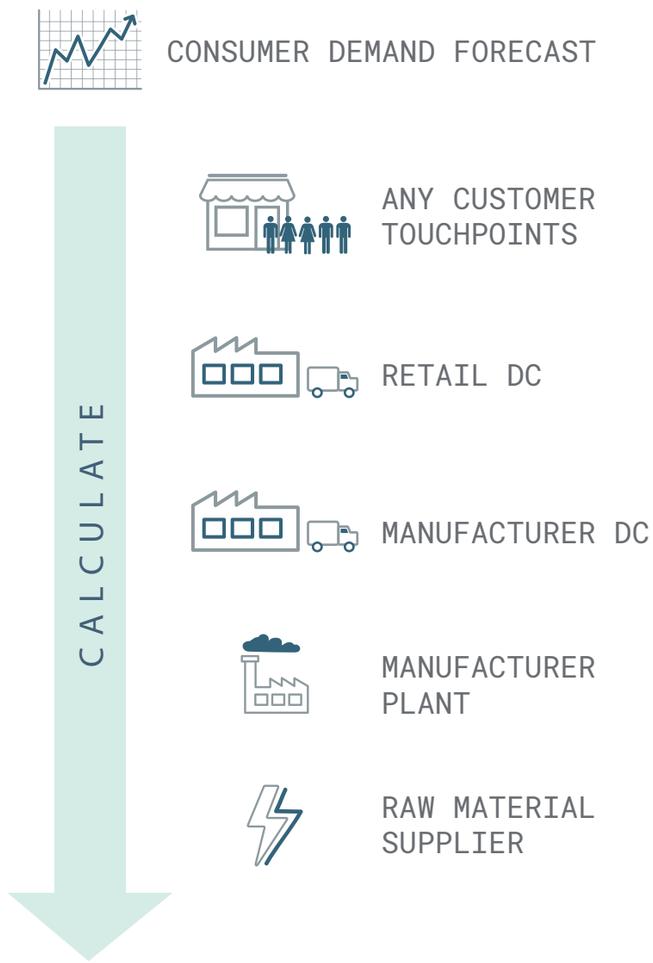
Some retailers have already responded with attempts to use Point of Sale (POS) data to generate store level forecasts. Then, using the store level forecast, current inventory balances, and ordering rules, they calculate projected supply requirements and flow this up through the supply chain to drive all other activities—from the store shelf to manufacturing plants and raw material suppliers (Figure 1).

Results have been mixed. The concepts are sound, but existing technologies have either limited or completely nullified the benefits. For large implementations, the sheer number of data points and calculations can be a major computing and process obstacle. For smaller implementations, the calculations aren't an issue, but the validity of the bottom-up plan is frequently inferior to the top-down plan for shipping, manufacturing, and financial planning.

And though technologies change rapidly, most planning solutions have been using the same server-based solutions for the past decade.

Fortunately, the rise of cloud computing has given rise to new models—and is enabling new planning solutions to emerge. This change empowers an integrated planning approach that can unlock the potential of the retail supply chain. It's called Flowcasting.

Figure 1: Consumer demand forecast drives the entire value chain



Introducing Flowcasting

Flowcasting is a unique planning process that generates time-phased consumer demand forecasts (e.g., Demand Planning) and calculated plans for the resulting upstream replenishment, purchasing, and manufacturing requirements (e.g., Supply Planning). Flowcasting is based on a fundamental tenet in supply chain planning: **never forecast what you can calculate**. Instead of traditional forecasting of shipments to and from stocking locations, every product in the retail supply chain is driven by a single forecast—consumer demand at store level or at other customer touchpoints.

In this sense, Flowcasting is very similar to the existing shelf-driven planning principle. Yet Flowcasting has one key differentiator: the store level forecast must not only be applicable at the store level, but also applicable in aggregate.

Flowcasting makes a completely integrated retail supply chain possible while providing substantial bottom-line benefits for both suppliers and retailers. Changes in consumer demand or adjusted forecasts can be instantly visible to retail and manufacturing facilities, so everyone in the supply chain has a complete view of future product requirements and flows—all available, digitally, in what can best be described as a complete model of the business.

Flowcasting is based on a fundamental tenet in supply chain planning: never forecast what you can calculate.

What's Different About Flowcasting?

Most supply chain executives and practitioners will agree that the retail supply chain should be demand driven—that is, it should be driven by a forecast of consumer demand based on Point of Sale (POS) data. Flowcasting makes this possible by enabling:

- A digitally connected, complete model of the business
- Simplified and improved forecasting
- Manageability, scalability, and continuous planning

Let’s tackle each one of these key differentiators in turn.

What's Different: A Digitally Connected Model Of The Business

Traditional planning applications seek to replicate each function of the business independently of the other functions. Forecasts are designed to produce the best results for that forecasted item; replenishments are generated based on the individual projections of two stocking points, etc. Flowcasting was designed with the vision of generating a single plan that is accurate across the entire value chain—potentially spanning multiple organizations. A single, bottoms up model of the retail business projects forecasted sales, shipments, receipts, and inventories at all stores, DCs, and production facilities.

The retailer and supplier now have, for the first time, a complete, up-to-date digital model of their business—a digital twin of the physical supply chain—containing all projected flows from factory to consumer for an extended planning horizon of 52 or more weeks. The result is that retailers and manufacturers gain unprecedented control of their business. High-level sales plans and targets are connected to and influenced by the day-to-day operating plans based on what is and isn't selling. This gives management the ability to identify issues and opportunities in order to meet their financial plans and targets.

What's Different: Simplified Forecasting

Flowcasting simplifies the forecasting process in two ways: first, it simplifies the process of demand planning. Second, it simplifies the demand alignment process.

To simply the actual forecasting process, Flowcasting employs a unified approach (with variations) for forecasting to account for the gambit of items that are typically represented at a retail store or selling location. The process calls for the use of POS data to create a 52-week, time-phased, integer-based sales forecast for all product/location combinations. Since the forecasting process is the same for all items—done only at customer touchpoints and only based on actual consumer demand—it is much simpler and more manageable. Managing the forecast becomes a question of determining the underlying assumptions about future demand and markets, rather than relying on gaining an understanding and working knowledge of sophisticated forecasting algorithms. The result? People take much more accountability for the forecasting process and the process produces better, and more useable, forecasts.

The simplification to the demand alignment process is inherent to the bottoms up forecasting design. No longer must planning and sales align debated aggregate numbers with statistical forecasts. Instead, the consumer forecasts can be aggregated to a reasonable projection of sales and shipments as a starting point for conversation. This ensures top-level sales projections are founded in justifiable consumer assumptions and executable programs. Gaps between sales targets and bottoms up projections are opportunities for collaboration and provide a roadmap to getting to the desired sales targets.

What's Different: Improved Forecasting

One of the critical forecasting requirements that Flowcasting addresses is forecasting and managing slow and ultra-slow selling items. For most retailers, the breakdown of store sales by item typically looks like this:

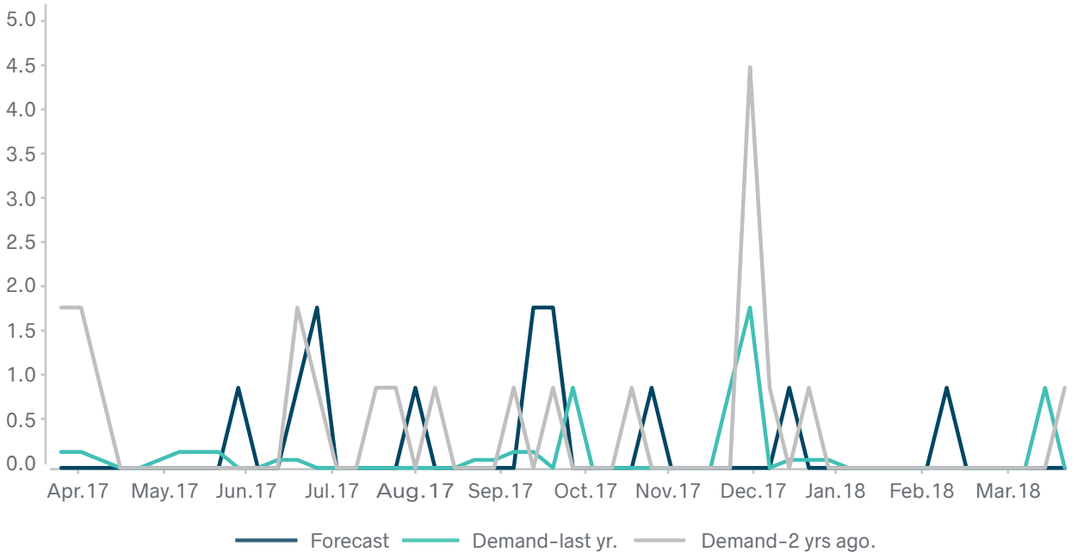
- 20% – Daily
- 20% – Weekly
- 60% – Less than weekly

Flowcasting's focus on forecasting slow sellers at store level leverages the above phenomena in a natural way. Forecasts should be developed with varying time horizons (e.g., weekly, monthly, quarterly). The resulting forecasts should be integers, like the way these items sell (Figure 2).

There are other forecasting algorithms that help calculate slow-moving items, but Flowcasting has one key differentiator. It produces integer forecasts for slow sellers that do not occur in exactly the same time period for every store—ensuring that the calculated demands for upstream partners is a decent representation of what's likely to happen. Given that all upstream projections of demand, supply, and inventory are a function of the store-level forecasts, it is critical for Flowcasting that the forecasting process produces reasonable estimates of sales for all selling patterns—fast, seasonal, slow, and very slow sellers.

It is this key differentiator that serves as the foundation for creating the improved forecast and single bottoms up model of the business.

Figure 2: An integer forecast for a slow selling item at a store



What's Different: Scalability And Continuous Planning

The ability for people and systems to manage the vast array of information and data is another key pillar of the Flowcasting process. The scope of Flowcasting is large. That's important, especially when you consider some of the larger retail value chains. National and global retailers often plan hundreds of millions of store/item combinations. With Flowcasting, systems and processes are refocused to be:

- **Architected on a simple concept:** For a certain planning horizon, it makes sense to plan in days, but beyond that, weekly planning is enough to provide supply chain partners the visibility they require.
- **Designed for workflow efficiency:** A few people must be able to manage the vast array of information and data.

New systems can be hosted and/or cloud based. New processes give planners the ability to quickly and effectively update key planning information (e.g., forecasts, replenishment parameters, etc.) so that everyone can see the most up-to-date plans. The result is that Flowcasting can scale to provide projections of sales, demand, inventory, capacities, financials, etc., for any sized retailer, large or small, for an extended planning horizon of 52 weeks or more. Planning for an extended horizon is crucial for retailers and manufacturers to perform integrated business planning, capacity planning, and financial planning.

In addition, the Flowcasting digital model of the business enables continuous planning. The solution re-plans and re-calibrates the entire value chain, digitally, based on what happens physically. Changes in sales, inventories, or shipments can be re-planned daily or continuously, resulting in altered plans and shipments to stay in stock, flow inventory, and respond to real exceptions or unplanned events. The result is that the Flowcasting model can manage the flow of information and trigger the movement of goods, digitally, on auto-pilot, a vast majority of the time—requiring planner input only when judgment and experience are needed.

Building The Business Case

Someone asked President Ronald Reagan what it was like to be President. He replied, “I always imagined there was a lever of government, and there is such a lever. The problem is, it’s not connected to anything.” That’s where we are today in the retail supply chain. Retailers have top-level plans, but they are not integrated either horizontally across the retail organization or vertically with their suppliers.

Flowcasting enables retailers to:

- Create a digital, bottoms-up model of the retail business that projects forecasted sales, shipments, receipts, and inventories at all touchpoints and DCs over a minimum 12-month or longer rolling planning horizon
- Within this digital model, detail the events and changes that are planned to the retail and supply chain strategies
- Share accurate forecasts of future orders with manufacturers.
- Create retail closed-loop planning by tightly managing the tolerances between the bottoms up model of the business and the retailer’s top down strategies and financial plans
- Accomplish closed-loop supply chain planning with manufacturers who agree to build products as forecasted and who commit to protect product availability for retailers who share these forecasts

Thanks to those benefits, Flowcasting also enables retailers and their manufacturing partners to attain higher in-stock positions, faster new product introductions, improved margins, and higher inventory turns.

Here are some of the benefits that Flowcasting can help retailers realize:

Sales Increase

» 1% - 6% incremental revenue

» 1% - 5% reduction in cost per incremental unit

Margin Enhancement

» 5% - 20% margin increase

» 3% - 5% in markdown reduction improvement

Cost Reduction

» 20% - 50% reduction in days outstanding and cycle time reduction

» 2% - 5% reduction in transportation costs

Working Capital Improvements

» 10% - 50% overall reduction in network inventory

» 10% - 40% forecast accuracy improvement (including promotions)

» Reductions in changeovers, expedited shipments, and raw material write-offs

Case Study: Princess Auto

Scenario

In 2015, Canadian hard goods retailer Princess Auto became the first retailer to completely manage its business using the Flowcasting process. The company now manages its entire supply chain from a forecast of consumer demand, by item, by store and web store. It uses this consumer demand forecast to calculate a series of integrated, time-phased plans (for a 52-week planning horizon) from the store to the supplier factory, adhering to the mantra “never forecast what you can calculate.”

Inside the computer is a digital twin of the physical supply chain that displays all projections from consumer to factory, for all products, and all planning scenarios and events. The projections of product purchases are shared with the company's merchandise vendors in the form of a supplier schedule, so that those vendors have visibility into future requirements and can plan accordingly. The vendors use these projections to plan raw materials and production and are adhering to the concept of “silence is approval”—that is, if they see something in their schedule that looks odd, they contact their respective Analyst—otherwise, they are expected to supply.

Product transfers (from stores to distribution centers) and purchase orders (from vendors to distribution centres) are cut, automatically, at the agreed upon lead time between any two locations. Since all partners in the supply chain have visibility, they are working to a single lead time between two nodes in the supply chain—even promotional requirements are automatically converted to an order at the same lead time as regular demand. In fact, their thinking has evolved to the point where they understand that, in retail, there really is no difference between a “regular” order and a “promotional order.”

The unit projections at all levels are automatically translated to different languages of the business:

1. In dollars for finance to aid in budgeting and gaining control of the business
2. In cube and weight for distribution, transportation, and retail operations to provide volume projections and automatically convert the projections to capacity requirements

Case Study: Princess Auto

Results

With Flowcasting, Princess Auto has enjoyed significant results with in-stock for all products, in all stores, regardless of the planning scenario. The company has also improved inventory productivity throughout the extended organization.

However, the biggest benefit is managing their business, digitally, to a single set of numbers (Figure 3). All departments, including suppliers, are driven by a common forecast of consumer demand and each department's plans are the translated version of this forecast into actionable information with which to improve service, cost, and productivity.

The supply chain process, planned digitally, is agile and flexible. It recalibrates the entire supply chain daily, based on what is and isn't selling in retail, in addition to newly minted strategies and tactics agreed upon by senior management.

The result has allowed Princess Auto to consistently achieve in-stocks close to 98%, even during promotional periods—a marked improvement from the industry average of 92%.

Figure 3: Managing the business to a single set of numbers

Understanding The Effort To Implement

Although the Flowcasting process is enabled and supported by technology, it was the focus on people and process that ensured Princess Auto achieved outstanding results—and were able to instill the new process and thinking throughout the extended organization. The approach was laser-focused on change management and included lots of team-based education, learning, as well as labs and pilots to solidify the learning using real data and examples.

In terms of resources and timelines, the Princess Auto Flowcasting project was implemented for 15,000 products, 45 stores, 20 planners, and 400 suppliers over an elapsed time of 18 months. The team was composed of five businesspeople—one external business consultant and four internal team members. Supporting them were one internal IT resource plus the half-time support of an external solution architect.

At Princess Auto, Flowcasting was implemented for 15,000 products, 45 stores, 20 planners, and 400 suppliers over an elapsed time of 18 months—by a team of five people.

Why Now?

The marketplace tells us that most retailers understand the need for improved planning processes and collaboration with their manufacturing partners. In addition, the emergence of omnichannel has forced retailers to become more agile—and will force the entire retail supply chain to orient itself to the end consumer.

The recent, very successful implementation of Flowcasting at Princess Auto has proven that the concepts and principles of the process are not only sound, but that they deliver on the promise of significant value add, both in terms of hard business benefits and also, importantly, on establishing new, agile, and flexible digital planning capabilities.

Aside from the clear business case, we believe that moving to this new model is imperative for maintaining competitive advantage and for becoming an agile, responsive, market driven enterprise. Developing a roadmap to implement the Flowcasting business process and digital solution is crucial to the future success of any retailer and their associated CPG manufacturing trading partners.

To learn more about retail supply chain best practices or discuss a need, get in touch:

info@businesstalentgroup.com
(646) 530-8404
businesstalentgroup.com

BTG

BUSINESS TALENT GROUP

info@businesstalentgroup.com
businesstalentgroup.com
(646) 530-8404