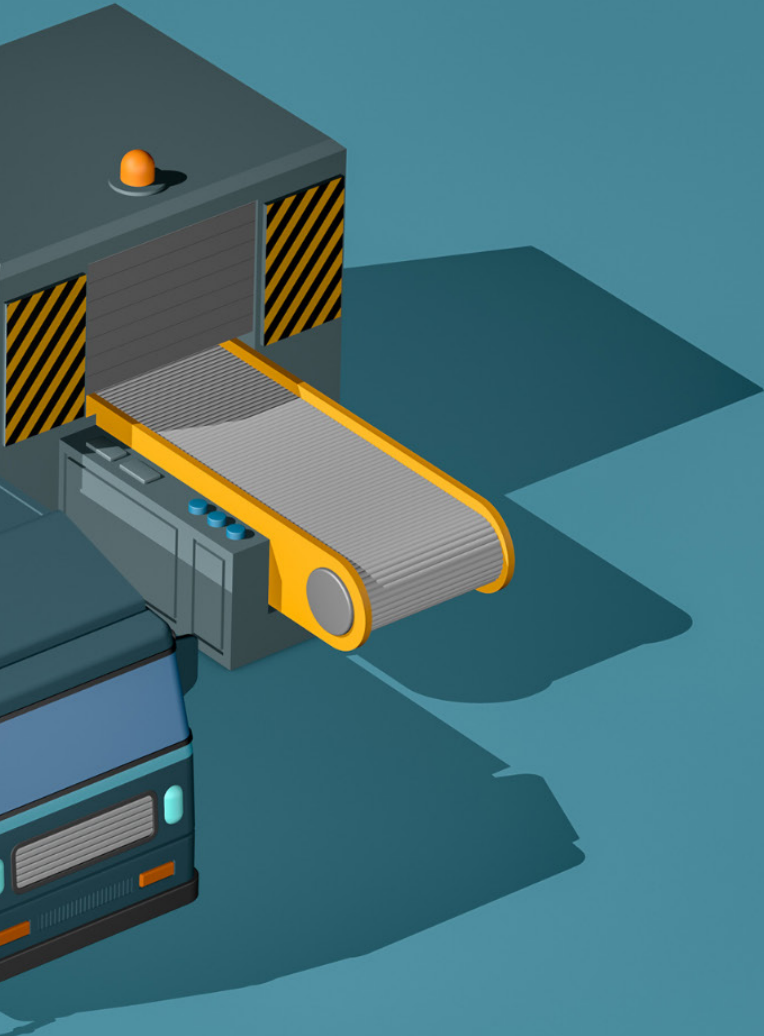




# Managing a retail business to a single set of numbers

How a model of the business improves performance // By Mike Doherty, Partner, Demand Clarity Inc.



Imagery courtesy of Iucadp

The year 2018 marked the 40th anniversary of Abbott Labs Canada achieving a very significant milestone in inventory planning and supply chain management. In 1978, Abbott Labs Canada became the very first manufacturer to manage its business to “A Single Set of Numbers”.

Three years earlier, as Director of Manufacturing Operations and Distribution, Andre Martin led the creation, development, and successful implementation of the first integrated time-phased planning system in the industry. Andre leveraged the Bill of Material (BOM) concept to integrate manufacturing operations from distribution centre to factory floor. Instead of a BOM, he flipped the idea and developed the concept of a Bill of Distribution (BOD). Once we forecast the demand at the DC’s, he reasoned, we could calculate the dependent demand onto the factories.

The Distribution Planning solution was aptly named Distribution Resource Planning (DRP) and adhered to the mantra laid out by Dr. Joseph Orlicky (of Material Requirements Planning fame) to “never forecast what you can calculate”. This enabled Abbott to seamlessly manage the flow of products across a three-echelon supply chain

– a worldwide supplier network supplying three factories (Montreal, Brockville and Toronto), who supplied ten distribution centers across Canada.

In 1978, he saw the opportunity to enable Abbott's top management team to manage their business to "A Single Set of Numbers" – converting the forecasts and resulting plans into financial, resource and capacity projections. He converted the time-phased production plans (developed by calculating production requirements from the DRP-driven plans) to dollars and called it "Game Planning" – since it produced a financial projection of planned sales, production, shipments, and inventory levels (i.e., essentially the company game plan) for a two-year planning horizon. In the early 1980's, the Oliver Wight Group would rename Game Planning to what it's called today – Sales & Operations Planning (S&OP).

He also realized that the new DRP solution, along with the DRP/MRP integration could be used as a financial planning and budgeting tool. The projections would form the foundation for the annual plan. As a result, Abbott's top management was able to use their operating system to put together

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their 1978 annual budget using the very same system they used to manage their day-to-day business.

### Princess Auto Ltd – applying the concepts to retail

Princess Auto Limited (PAL) is a national, Canadian, hard goods retailer with 51 stores located from coast-to coast, selling a wide variety of products, targeted to help their customers - the "figure-it-outers" - do, fix, tinker and make things. The stores and online portal offer their predominately male customers approximately 15,000 products, sourced from more than 400 merchandise vendors located around the globe, flowing through a network of three distribution centers.

In 2015/16 it became one of the first retailers to completely manage its business using the Flowcasting process, managing the entire supply chain from a forecast of demand, by item, by store (and web store). They use the consumer demand forecast to calculate a series of integrated, time-phased inventory flow plans (for a 52-week planning horizon) from the store to the supplier factory.

The projections of product purchases are shared with their merchandise vendors in the form of a supplier schedule, so the vendors have visibility to see future requirements and plan accordingly. The vendors are beginning to 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.

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

- In dollars for finance and merchandising to aid in budgeting and gaining control of the business
- In cube, weight, and activity for distribution, transportation, and retail operations to provide volume projections and convert the projections to resource and capacity requirements

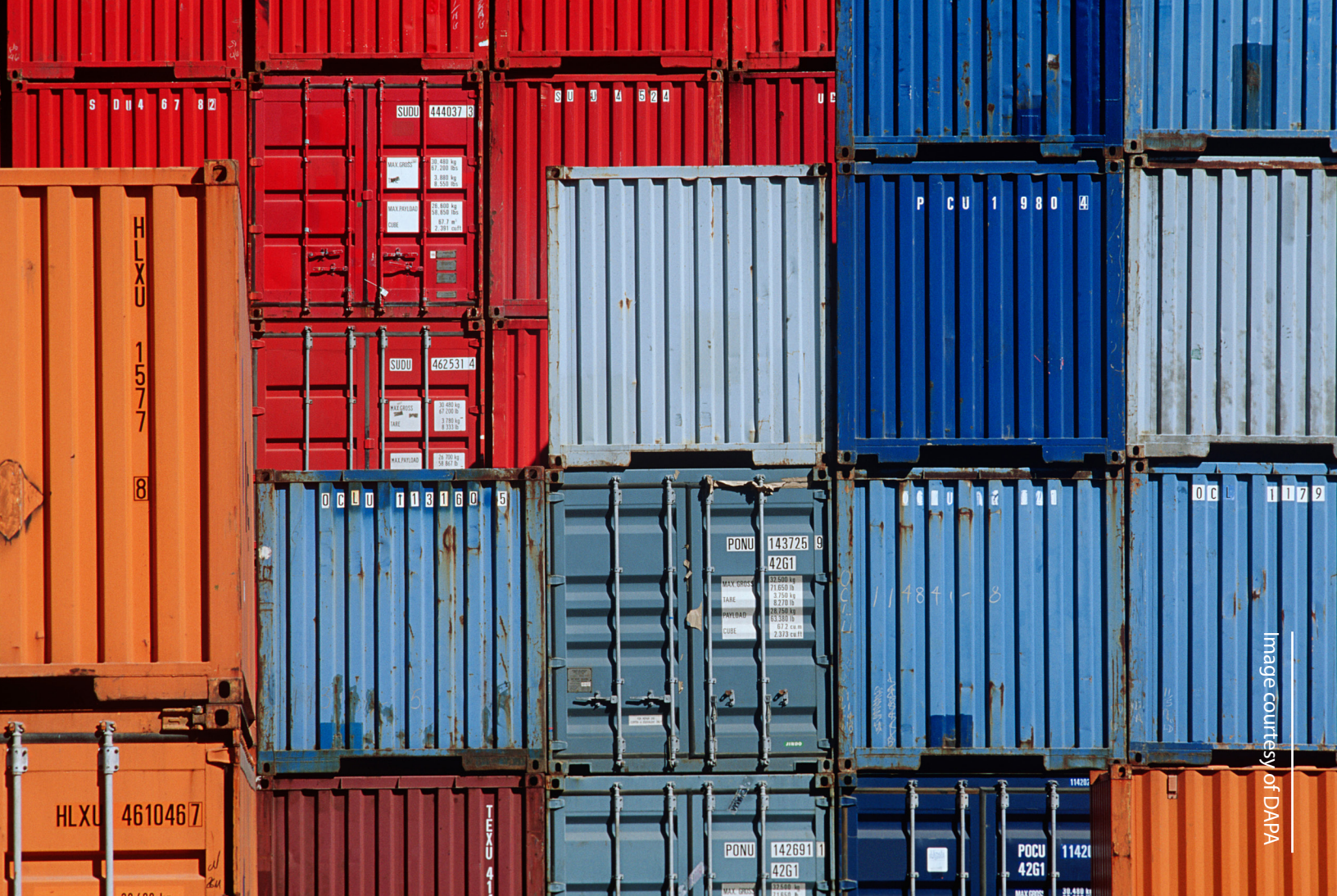


Image courtesy of DAPA

## A Model of the Business

The new planning process develops up-to-date consumer-driven, integrated plans that are valid across the entire value chain, including plans that span multiple organizations. Princess Auto Ltd and its trading partners now have, for the first time, a complete model of their business - that is, a future-dated digital twin of the supply chain - containing all projected product flows from factory to front door for an extended planning horizon of 52 or more weeks. The result is improved control over the 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 top management the ability to identify issues and opportunities to meet their financial plans and targets. In addition to the increase in in-stock

and resulting sales, they have achieved improved inventory productivity throughout the extended organization.

They are managing their business to a single set of numbers whereby 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 planning process is agile and flexible, and recalibrates the entire value chain daily based on what is and isn't selling, in addition to new strategies and tactics agreed upon by senior management. In addition, the bottoms-up item level projections have provided the business with the information required to aid in the annual budgeting process and ongoing management of the business.

The item/store forecasts in units are converted to financial sales projections, and then aggregated to category, department, and sub-department level to provide the starting point for the baseline budget for the upcoming year. The impacts of additional strategies and tactics are then added to the calculated baseline to arrive at the budget, or business plan. A similar exercise is done to develop projected inventories and purchases since the new process develops long term item/location inventory and purchase projections.

Given the fact that the new planning process is always recalibrating based on the latest information it has provided the executive leadership team with a continuous, forward-looking critique of how well the business plan is being realized – essentially a retail sales and operations planning process, with the added benefit of connecting lower-level plans to the higher-level goals of the business.

Instead of looking in the rear-view mirror to evaluate the plan, the executive team has the ca-

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pability to assess the forward-looking plan and to determine where the plan may be at risk – giving them time to make any tactical adjustments necessary to stay on track.

### Agility and flexibility

The COVID-19 pandemic and resulting impacts to the retail supply chain has highlighted the importance of agility and flexibility – the ability to quickly assess, pivot and re-plan based on current and fluid market conditions. For Princess Auto Ltd, the new planning model provides a rigorous and complete planning approach that has allowed them to quickly re-plan the entire integrated supply chain, assess risk areas and, where possible, take advantage of opportunities.

As an example, as COVID restrictions were imposed and then relaxed, market by market, the new planning process was able to translate updated demand plans into revised projections of demand, supply, inventory, capacity, and financials for all stakeholders to plan to and collaborate on – including merchandise suppliers.

This next level agility and planning flexibility allowed them to recalculate product flows quickly and remain focused on delivering to the customer who, during this time and as expected, shifted more demand online.

### Benefits

The Flowcasting process and store-centric consumer-driven planning and fulfillment model has measurably and significantly delivered the following benefits:

- Improved daily in-stock rates to consistently 97-98% for all products, channels, and planning scenarios during a period of significant growth – both online and offline
- Improved inventory flow to the store shelf, resulting in a reduction in backroom inventory and congestion in most stores

- Significantly reduced online order cycle times because of planning and fulfilling online customer orders from store level
- Improved overall margins because of reduced costs for online customer orders

### Resynchronizing supply

There is no doubt that customer demands and sentiment are shifting, driven by the shift to a digital world and amplified by disruptions like the global pandemic. Princess Auto Ltd has connected its supply chain from consumer to factory using the Flowcasting process and enabling solution.

The entire retail supply chain is re-synchronized daily, based on yesterday's sales and inventory changes. This new channel-agnostic, planning and fulfillment model combines the best of customer driven, integrated planning and store level fulfillment to move as close as possible to the customer,

reducing customer order cycle times and last mile fulfillment costs. And, it allows them to be in stock – for any channel desired by their customers.

They can plan for any business scenario desired and have the capability to envision and re-plan the entire, extended supply chain as global and local events dictate. These agile and flexible planning capabilities are serving them well as they continue to deliver industry leading in-stocks, inventory performance and customer journeys.

Most importantly, they are managing their business to a single set of numbers – having essentially a model of how they wish to do business, spanning their entire ecosystem. It's a concept that originated in manufacturing over 40 years ago, thanks to the pioneering work of, among others, Andre Martin, Oliver Wight, Darryl Landvater and Abbott Labs, and one that is being realized today by smart, forward-thinking retailers.



# Uniting people with their things is kind of our thing.