

Oracle Speaks on Inventory Optimization

My name is Isaac Edwards (IE) and I am the Senior Director of Supply Chain for a large sporting goods retailer. Over the last five years of my career I have consulted with the Oracle on a wide range of topics. The last time I spoke to the Oracle was over six months ago on the topic of push and pull boundaries. Think of push and pull boundaries as simply where to position inventory based upon supply and demand variability.

As a sporting goods retailer with more than 750 stores, it is impossible for us to guess how to put the right SKU, at the right store, at the right time and at the lowest cost. We have over 40,000 SKUs in our assortment and we introduce at least 5,000 new SKUs each season (quarterly). When we used the Oracle over four years ago to evaluate our supply chain and how we were allocating inventory at the stores, he would always say, "Tell me how you allocate, and I will tell you how your downstream supply chain behaves."

For my company, this proved true. When we merged with one of our largest competitors (Sport Fanatics), our downstream supply chains were at completely opposite extremes. We pre-allocated over 90% of merchandise in pre-packs (apparel and footwear), while Sport Fanatics systemically could not support pre-allocation. They picked and packed nearly 95% of their inventory. The results for both companies were horrific. We were over allocating our inventory and as a result, 15% of our merchandise

came back in the form of in-store transfers or returns to vendors. We processed over 400,000 return cartons per year. However, we had great inventory turns and very low cost per unit because we only delivered to our stores once a week. On the other hand, Sport Fanatics had miserable inventory turns. They were tying up a lot of working capital, but their comp sales and in-stock position were better because they pulled inventory through their DC and replenished to their stores two to three times per week.

We consulted the Oracle to figure out how to move inventory through our supply chain using statistical forecasting and replenishment techniques. The actual techniques were pretty straightforward, but our collective teams had not looked at SKU characteristics based upon the Coefficient of Variance (CV). Most retail-centric companies, including our organization, are led by merchants instead of folks with a background in Supply Chain Management. The Oracle would always say, "I am not going to tell you what to buy, but I am going to tell you how to buy, how much and how to allocate." We now have a supply chain that evaluates our inbound (supply variability) and outbound (demand variability) on a continuous time fence. This is possible because we have control over our inbound freight from both foreign and domestic suppliers. We now control 95% of our inbound merchandise, we have visibility to factory performance and we constantly measure our lead times and variance



in our supply chain. The Oracle would always communicate to our merchants, buyers and planners that they need to start behaving like “investors” by both managing and controlling their suppliers’ variability. If you measure variability, you can better understand its impact and ramifications.

We also made big changes to our organizational structure, key performance indicators (KPIs) and key success factors (KSFs). The Oracle defines KPIs as behavioral indicators versus KSFs, which help you determine if you have achieved success. We made one major change in our organizational alignment; we moved from a merchandise-centric organizational structure to a demand-driven structure by hiring a SVP of Supply Chain Performance, Susan C. Peters. Our SVP has responsibility from source to consumption and back (reverse logistics). Specifically, she has responsibility for distribution, inbound and outbound transportation, inventory optimization (assortment planning, replenishment and allocation), and supply chain planning and execution technology (Visibility, Assortments, Purchase Order Planning, PO Flow Execution, Allocation, WMS, TMS, LMS and even POS). She oversees the physical movement of all merchandise and the amount of inventory that is in our supply chain from source to consumption. She is not accountable for merchandising, sourcing, pricing, or store operations. Think of it this way - our merchants are experts at their category,

product, market and customer “wants,” but they are not great allocators or inventory analysts. Not to mention that our inter-store transfers and markdowns have significantly decreased.

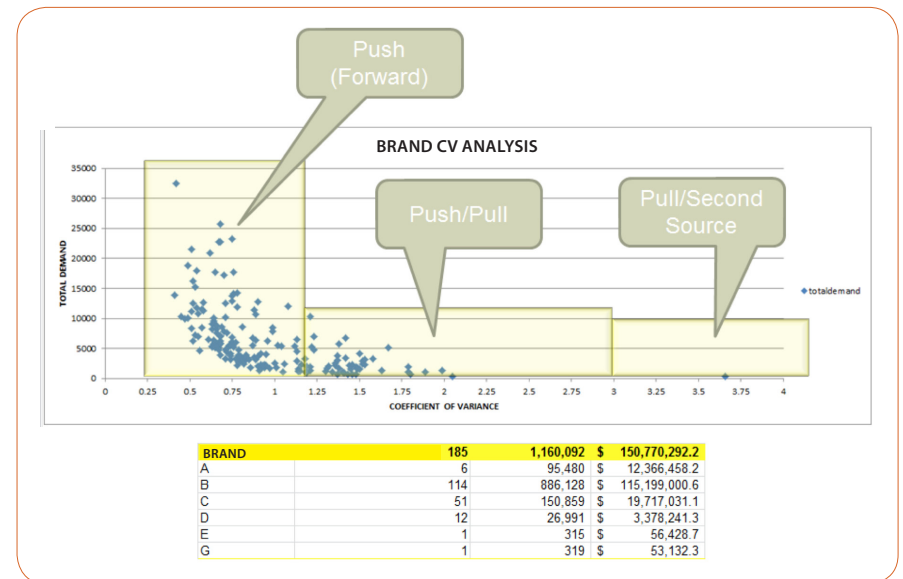
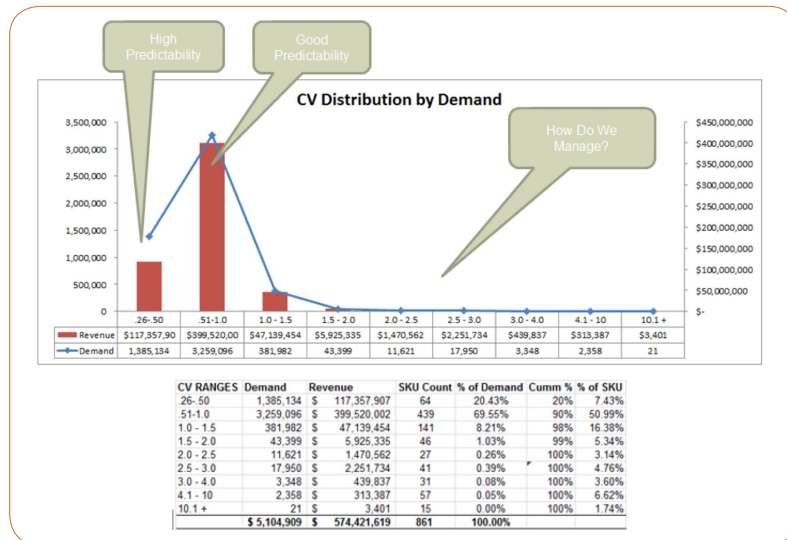
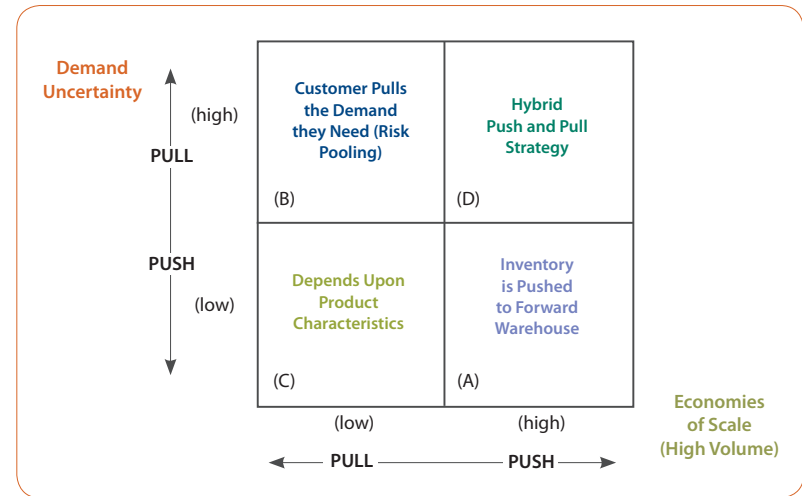
Susan had worked as a consultant for the Oracle’s consulting firm and specialized in retail. She brought a level of sophistication, managerial science and leadership talent that we needed. The first thing she did was to have our team map out our supply chain from vendor to store in order to understand our lead times and lead time variability. We calculated the lead time and variability for every vendor (starting with PO creation), their fill rate percentages, and the standard deviation on their lead times. We documented our lead time for all carrier modes, by carrier and by lane. We documented the lead time variability within our own distribution centers and our returns process from store to DC. She communicated to us that the Oracle “would not start a continuous improvement project unless he understood the cycle time for each process step in the supply chain and the variability.” Susan learned from the Oracle that “time” is a killer. We needed to understand where we were wasting time so we could compress it. By compressing time, we increased our flow of inventory and this gave us a competitive advantage over our competition, not to mention we have improved inventory levels because we have a “predictable assortment.” Susan is now working with

the Oracle to evaluate vendors who currently offshore their production and move it on-shore. They are targeting SKUs with short seasonal life and high demand variability (fashion). More to come on how compressed lead times and reduced variability can offset the cost from foreign LCC (low cost countries) production.

She also engaged the Oracle and his inventory optimization team to conduct a Coefficient Variance Analysis (CV). We evaluated all 40,000 SKUs individually over a 12-month period. We looked at both distribution centers’ inventory turns and we reviewed inventory turnover, allowing us to understand how well we were using our working capital (cash). The goal of the CV analysis was to understand how dependent (promotions) and independent variables were impacting the CV. Note that CV measures how predictable a SKU behaves. The more predictable the SKU, the easier it is to forecast and push the inventory to the appropriate store, compared to a SKU with a greater CV value where you want to pull the SKU and wait for POS data. Granted, where you place the SKU in your supply chain is also based upon product characteristics and supply lead time.

As a sporting goods retailer, we sell a lot of baseballs during the spring season. We determined if we had the supply, we could push the baseballs to the store and they

would sell (high volume and low demand uncertainty). On the other hand, we also sell exercise equipment year round and found that in certain markets (geo-demand or store clusters) we should push some equipment and keep some level of inventory in our back stock room, but we also had certain areas of the country where the CV value was high. Therefore, we developed a Hub and Spoke network to move exercise equipment to the stores, but also directly to our customers' homes (next day delivery and installation). Susan's message has always been that not all SKUs are the same, not all orders are the same and not all vendors are the same. Therefore, your supply chain cannot be a "one all fit all model." In summary, standardize where possible to gain efficiencies, but understand your supply and demand variability so you can manage it.



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