The Profit Impact Of Vendor Performance Improvement

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The relationship between vendor performance and retail profits are closely related, and improving it yields big wins for both parties.

A hallmark trait of successful companies in any industry is their ability to do things — even the simplest, most basic things — better than their competition. This usually requires a willingness to do such things differently, to shrug off the notion that the inefficiencies of standard operating procedures are a cost of doing business, to wring as much error and anomaly as possible out of the operation — no matter how mundane.

In retail, opportunities to find competitive differentiation are perhaps nowhere more plentiful than in the complex and variable supply chain.

Inbound transportation logistics are affected by a number of factors that have a large, direct, yet difficult-to-measure impact on retail profitability. Lead time, on-time delivery, order accuracy, and fill rates are among the many levers that impact store performance, yet these complex variables that present opportunity are often the very challenges that stifle its pursuit. If a retailer can't specifically measure the cost of out-of-stocks and lost sales due to variables such as vendor error and noncompliance, vendor performance improvement doesn't make the short list of supply chain investment priorities.

Recent initiatives focusing on vendor performance and its impact on retail operations — and ultimately profits — are shedding new light on the massive and measurable vendor performance management opportunity. In this paper, we'll explore in detail how vendor performance improvements positively impact inbound logistics, and we'll illustrate the direct correlation between reduced supply chain variability and retail profit margins.

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Anticipating Order Inaccuracy: The Safety Stock Dilemma

The fact that less than 100% fill rates are problematic isn't lost on any retailer. It's a simple assumption that if an order for 1000 t-shirts is only filled to 90%, the 100 t-shirts lost to the supply chain equate to lost sales potential.

Lost sales potential is just the first link in a costly chain reaction. Order inaccuracy also causes allocation disruption, requiring the recalibration of distribution of the 900 received shirts across the entire store base. Anticipation of order inaccuracy also results in the buildup of safety stock in an effort to avoid out-of-stock scenarios.

By its nature, safety stock is designed to protect retailers from supply chain variability and prevent shelf-level stock problems. In an ideal, automated world, safety stock isn't necessary — when the last item on the shelf is sold, a new shipment arrives for replenishment. In the real world, however, that ideal is lost to demand, lead-time, and fill rate variables. Safety stock is inevitable. The challenge is not how to eliminate the necessity of safety stock, but how to efficiently manage and effectively minimize it.

Safety stock management begins with policy assessment. Acknowledging that in-stock inventory position can't be 100% protected due to demand variability, a SKU-level risk tolerance policy must be calculated and applied. For instance, a retailer's A-level products — those top-selling and high-margin items that contribute to the majority of its sales — should have a lower risk-tolerance than its B-level products. The retailer might aim for 98% in-stock positioning for it's A-level products, 97% for its B-level products, and so on. These risk tolerances will dictate the necessity for and quantity of safety stock at each merchandise level. They will also be adjusted for demand, based on the demand levers within the context of the specific retail business (seasonality, fashion trends, promotions, etc.).

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Vendor substitutions cause the same trouble that sub-par fill rates do, and then some. When an Advance Shipping Notice (ASN) indicates a vendor substitution, the chain reaction causes retailers to focus time and effort recalibrating promotions, often on lower-margin and/or lower-demand merchandise.

While the impact of these inaccuracies is felt and its financial impact assumed, connecting the dots between order inaccuracy and profit and margin at the store level hasn't historically been a data driven, fact-based exercise. Today, the value of reduction in supply chain variability and its impact on the necessity for excessive safety stock is becoming more measurable.

The High Cost of Supply Chain Variability

To illustrate the direct impact of supply chain variables on retail profit, let's look at the math. In a typical scenario, a vendor supplies several products to a retailer over a one-week replenishment cycle. Assuming the vendor's leadtime is ten weeks and lead-time variability is 20 percent, the retailer assumes 2 weeks of lead-time variability (20 percent of 10 weeks). Thus, the retailer needs one week's worth of inventory for sales, plus two more weeks of safety stock to protect it from that lead time variability. This brings the retailer's on-hand supply necessity to 21 days. To keep the math simple, let's assume the weekly inventory cost is $1,000,000.00. Improving lead-time variability by a single point to 19 percent, the retailer lowers its on-hand supply necessity to 20 days, thereby reducing its inventory cost by $33,300.00 with a single one-point improvement.

A five percent improvement to lead-time variability (15 percent from 20 percent) reduces the retailer's inventory carrying cost to $833,000.00, freeing up $166,000.00. In this example, a 5 percent lead-time improvement results in a significant 15 percent reduction in inventory necessity—on a single SKU (see chart on the following page).

Clearly, most retail supply chain executives can anticipate at least a single-point reduction in supply chain variability through improved vendor performance. More importantly, any retail CFO will reason that a single-point improvement is justification for the effort, which will typically reach far beyond a single percentage point. Extrapolated across many SKUs, the inventory carrying cost improvement easily reaches into the millions of dollars.

Vendor performance management begins with vendor performance measurement.

In real terms, a $3 billion multinational retailer with a lead time of 13 weeks and 12 percent lead-time variability recently reduced that variability 7 points over a 24-month period of intensive vendor performance management initiatives. As a result, its 18 days of on-hand inventory, which rang in at $12.4 million, was reduced to 12 days, or $7.9 million, without any degradation to its in-stock position.

When implemented across a sampling of several vendors — some with very accurate performance records and some very volatile — this retailer applied a weighted average to measure holistic improvement. Across the board, it improved lead-time variability 12.4 percent and fill rate 9.8 percent, resulting in inventory cost savings of approximately $200 million.

In any event, vendor performance management begins with vendor performance measurement. Upon measuring its vendors' on-time shipping performance, an apparel retailer that engaged in a Traverse Systems vendor performance management initiative realized a 51 percent improvement in its first year.

Vendor Performance Profit Impact

	SINGLE-SKU Example Cases			Real-World Case	
	Case 1	Case 2	Case 3	$3 Billion Global Retailer	
Lead Time	10 weeks	10 weeks	10 weeks	13 weeks	13 weeks
Lead-Time Variability	Original 20%	Improvement 20%	Improvement 15%	Original 12%	24-Month Improvement 7%
Safety Stock Requirement	14 Days	13.3 Days	10.5 Days	18 Days	12 Days
Sales Inventory Requirement	1 Week	1 Week	1 Week	1 Week	1 Week
Sales Inventory Cost	$1,000,000	$966,700	$833,0000	$12,000,000	$7,900,000
Total On-Hand Inventory *(sales inventory plus safety stock)*	21 Days	20 Days	17 Days	25 Days	19 Days

Vendor Performance Management Reduces Trouble Shipments

As illustrated herein, the first and most rewarding steps toward minimization of supply chain variability are improving lead-time and on-time shipments. There are simply more retailer-controlled supply chain management and logistics levers available to inexpensively improve on-time performance and velocity, and the payback is almost assuredly great enough to fund the next focus areas, which include fill-rate and trouble-shipment improvements.

Trouble shipments are those that present problems at the DC for various reasons; mislabeled and unlabeled cartons, mispacked merchandise, substitutions, and missing ASNs among them. A trouble shipment is any anomaly that requires intervention to rectify, thus disrupting the flow of goods from the DC to fulfillment. In high-velocity, cross-dock environments, a day or two delay due to the necessity of manual intervention results in a day or two delay in getting merchandise to the store, which is often the difference between just-in-time inventory accuracy and a revenue-impacting, out-of-stock situation. Out-of-stock scenarios only serve to exacerbate the chain reaction, causing consumer demand for substitute products, which — like vendor substitutions — force the retailer to recalibrate promotions, apply brand damage control, and sell at lower margins.

When trouble shipments are reduced, retailers see a corollary improvement in velocity and out-of-stock improvement. In one case, a Traverse Systems customer was able to reduce its trouble shipments 65 percent through implementation of a vendor performance management system. But, efficiently reducing trouble shipments, improving fill rates, and increasing on-time shipments isn't just about identifying outliers and poor performers. Key to achieving this kind of improvement is visibility into which vendors are performing well. Identification of those who provide proper ASN documentation and accurate, on-time orders enables the retailer to focus audit and vendor performance management resources where they're needed most, while speeding merchandise from best-performing vendors to the point of impact without disruption. In today's resource-constrained retail environment, minimizing intervention on best-performing vendors is essential to maintaining chain velocity.

Maximizing The Impact of Vendor Performance Improvement

As the aforementioned examples illustrate, removing as little as a day's worth of safety stock frees up working capital, and the liberation of working capital improves the organization's working cash flow. There's an opportunity cost tied to that capital — it's not simply a matter of removing inventory carrying cost; it's a matter of what the retailer could be doing with that capital to make more money. How can that cash be applied to turn a faster profit? How can it be compounded by creating more cycles of profit and — as a result — more sources of operating cash flow? The financial implications of vendor performance improvement are significant enough to warrant welcomed supply chain finance discussions with the CFO.

With that said, even after sources of supply chain variability are identified and improved and the immediate financial benefits realized, retailers often fail to take the steps necessary to carry those benefits beyond the immediate performance improvement.

For the eradication of supply chain volatility to remain sustainable, the retailer's new operating parameters (i.e. less safety stock) must be communicated to buyers and inventory management professionals in a way that effectively changes their daily routine. Vendor performance affects replenishment policies, thereby requiring the simultaneous involvement and calibration of many teams, including supply chain, inventory, merchandising, and promotions.

In the rare, entirely automated environment, cultural- change issues are of less concern, but for most retailers, training and repetition are paramount to establishing trust among associates. Creating incentives for retail buyers associated with lead-time, inventory, sales, and gross-margin improvements and illustrating the links between these KPIs and vendor performance will speed adoption. As volatility is driven out of the supply chain, these benefits must be demonstrated to associates to build their comfort level with the new parameters.

Efficiently reducing trouble shipments, improving fill rates, and increasing on-time shipments isn't just about identifying outliers and poor performers.

Reduction in Supply Chain Variability Drives More Sales and Better Margins

Despite the many moving parts of the supply chain, the relationship between supply chain variables and store performance is increasingly understood thanks to increased data visibility and measurement capability. The impact of inbound shipping performance at the shelf and POS level is no longer a vague inference, much less an all-out enigma. Diligent attention paid to vendor performance KPIs such as lead time, fill rate, and problem shipments translate to a reduction in out-of-stocks, saved sales, and higher margins/profitability.

For more information on vendor performance management, visit Traverse Systems at **www.traversesystems.com**.

Calculating Actual Safety Stock Requirements is not an Easy Task.

Calculating actual safety stock requirements depends on a combination of multiple risks, such as demand variability, forecast error, lead-time variability, and vendor compliance. Retalon Predictive Analytics helps to calculate this number accurately in order to only add the safety stock where it is required.

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ABOUT RETALON

Retalon is an award-winning provider of advanced retail predictive analytics and AI solutions for supply chain, planning, merchandising, inventory management, and pricing optimization, with a transformational approach to the retail industry. From inception, Retalon solutions were built on one unified platform powered by advanced mathematics and AI resulting in higher accuracy and the ability to optimize unique and complex retail processes.

Retalon has worked with retailers from over a dozen different verticals to uncover hidden opportunities and significantly increase bottom and top lines. Founded in 2002 in Toronto, Canada, Retalon has become a leader in retail predictive-analytics technology receiving praise from industry experts such as Gartner, Deloitte, IBM, and Microsoft, as well as winning several supply chain innovation and retail technology awards.

For more information, visit **www.retalon.com** or call 1.888.837.0268.

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ABOUT TRAVERSE SYSTEMS

Traverse Systems is an interdisciplinary team of engineers, operators, and industry experts who work day-in and day-out to build best-in-class enterprise solutions that redefine business partnership management and supply chain success.

For 18 years, we have served some of the world's most respected brands including CVS, Burlington Stores, Tractor Supply, Kohl's, and more.

Markets and consumer expectations are changing rapidly, and old operational models are breaking under the pressure. Our job is to mitigate those risks with technology and expertise that optimizes performance and execution.

Traverse Systems is proudly based in Sugar Land, Texas. To learn more, please visit: ***www.traversesystems.com.***