



You Only Have One Supply Chain?

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When it comes to supply chains, having three or more may be just what you need to meet the needs of your best customers, says Jonathan Byrnes.

by Jonathan Byrnes

When it comes to supply chains, having two is better than one, and three or more may be best of all. Let me explain.

A few years ago, I met with the top supply chain executives of one of the largest manufacturers of telecommunications equipment. The company produced products ranging from expensive digital central office switches to the cables that run from pole to pole to replacement parts for past and present generations of equipment in the field.

We spent the day in a conference room reviewing their supply chain, discussing ways to make it more productive. The executives explained how their supply chain worked. First, the company manufactured products in its factories; then it shipped them, generally in full truckloads, to its field distribution centers scattered around the country; finally, the products were stored in the field distribution centers until customer orders arrived.

As we talked about the process, it became clear that the company was running a "one size fits all" supply chain. For example, the company produced small circuit boards, valued at more than \$30,000, to upgrade switch capabilities. Yet they traveled side by side with all of the company's other products from the factory to the distribution centers, often waiting for a full truckload before shipment took place.

Having two supply chains is better

This suggested a thought: Why not have somebody stand at the end of the production line putting the circuit boards into Federal Express envelopes and shipping them directly to customers? That way, the company would save a lot of money in inventory costs, even with the higher transport cost. There really was no good reason why these compact, expensive circuit boards should move through several echelons of warehouses, wait for trucks to be fully loaded, and sit in inventory all over the country.

This may seem like an obvious solution, but think about this question: Why did nobody see it years before?

The answer is that the company's supply chain was designed in an earlier era, when the company produced far different products. It was set up to efficiently transport heavy, relatively low-value products like cable. These products were produced in high volume, and because transportation cost dominated inventory carrying cost, they had to be transported efficiently in full truckloads and stored in field locations near the customers.

When the company started making expensive, compact electronic switch components, the managers simply assumed that these products would move through the existing supply chain. This was a very costly assumption.

Here, two supply chains were indeed better than one. The company needed one supply chain for its bulky, inexpensive traditional products, and a second, completely different one, for its small, valuable electronic components.

The company's supply chain was designed in an earlier era, when the company produced far different products.

In last month's column, "[Manage Paradigmatic Change](#)," I explained how most companies' policies and processes reflect each company's situation three to five years ago. However, because supply chains involve long-lived facilities and equipment, in many companies they actually are designed to address the company's operating needs from ten to twenty years earlier. This was the root cause for the telecommunications equipment company's problems, and it is the core source of poor supply chain performance throughout business

today.

In many companies, not only does one size *not* fit all products, but often it is the wrong size for most.

Three supply chains is even better

Consider the supply chain needs of a major clothing retailer. This company has three types of products: (1) staple products, like white underwear; (2) seasonal products, like wool slacks; and (3) fashion products, like stylish blouses. Each needs a different supply chain.

Staple products are sold steadily throughout the year, often at relatively low margins. These products are easy to forecast, and should flow through the supply chain like water through a pipe. Inventories should be kept primarily in stores, with small safety stocks in field distribution centers. These products should be transported in efficient truckload quantities.

Seasonal products experience strong peak demands that are hard to predict. For these products, the retailer must build inventory in advance of the season and manage carefully the pace at which it pushes product out to the stores. However, the supply chain for these products is even more complex than that.

In "[Precision Retailing](#)," I explained that high-volume stores can support much higher inventory levels relative to sales of seasonal or short-lifecycle products than can lower-volume stores. In fact, in many retailers, a surprisingly large proportion of marked-down inventory is late-product-lifecycle stock in lower-volume stores. Here, high-volume stores need a different supply chain than do lower-volume stores, and this need accelerates as the product moves through its season or lifecycle.

Fashion products are characterized by very unpredictable demand. A product may take off, or it may be a dud. It may take off immediately, or later in the season. These products require very special supply chains.

For example, Zara, a Spanish fashion-oriented retailer, utilizes dual sourcing. Picture the demand for a product over time as looking like waves on the ocean. Staple products have small waves, and fashion products have large, erratic waves. Zara sources the "waves" from local vendors with higher cost and fast response time, and the "ocean" from Eastern European vendors with lower cost but poor response time. That way, Zara gets the best of both worlds.

It makes sense to have different supply chains for different account relationships.

The economics are compelling. Think about this: One major retailer has structured a supply chain with a 48-hour response time on fashion products sourced in the Far East. If you buy a fashion garment from one of its stores in your local mall, the data is transmitted to a factory in the Far East. The factory keeps semi-finished "greige goods" products in stock, and that day it cuts and tailors a replacement for the one you bought. The garment is flown to the United States on an air freighter, cleared through dedicated customs, and driven through the night to the store in your local mall to replace the one you bought.

Does this sound expensive? It is. This expedited supply chain adds about three dollars to the cost of the garment. But the garment's margin is over twenty dollars, and the sale otherwise would have been lost, so it makes sense.

More than three may be best of all

So far, we have looked at several dimensions of supply chain differentiation:

- Product characteristics—value, bulk (to this we could add criticality and availability of substitutes)

- Product demand—staple, seasonal, fashion (to this we could add other categories from other industries)
- Time—early, mid, late season or lifecycle
- Store type—high volume, low volume (to this we could add other categories such as specialty or mass merchant stores)

Here's another important supply chain differentiator:

- Customer relationship

In "[The Dilemma of Customer Service](#)," I explained that many companies get stuck in a syndrome in which they chronically shift back and forth between cost minimization and service maximization, like a pendulum. This quarter, costs are out of control so they cut inventory; next quarter, the customers are screaming so they increase inventory.

The way out of this dilemma is customer service differentiation, tailoring the supply chain order cycle time—the time from customer order placement to customer receipt of product—to the account relationship. Important, steady accounts should get fast turnaround time in return for the bulk of their business and cooperation with forecasting. Occasional accounts should get longer turnaround time to allow you to bring product from centralized stocks if needed. If the occasional accounts want faster service, they can upgrade their relationship with you.

This supply chain structure allows you to lower your costs by assigning field distribution center stock primarily to predictable, dedicated customer demand, creating a steady flow of products while retaining the option to source unpredictable, occasional customer demand from the most economical stocking location. The key is to always keep your order cycle time promise to every customer, but to promise different cycle times to different accounts based on your relationship. It makes both economic and marketing sense to have different supply chains for different account relationships.

Here's another important customer dimension: Some key accounts warrant tightly linked supply chains. Here, the objective is to increase the customer's profitability on your products through intercompany processes like vendor-managed inventory that increase your customers' return on invested capital for handling and selling your products. I described how to create these supply chains in "[Supply Chain Management in a Wal-Mart World](#)," and "[The Age of Precision Markets](#)." Companies across a range of industries that have deployed these processes with key customers have experienced sales and profitability increases of 25 to 40 percent.

Supply chains of the future

There is a fundamental change occurring in supply chain management. In the past, most companies had relatively static supply chains with a "one size fits all" orientation. A few had dual supply chains coexisting side by side, but once the configuration was in place, things didn't change much.

The static supply chains of the past reflected two factors: (1) Until recently, supply chain IT was not capable of dynamic management; and (2) everyone was in the same boat, so there was little competitive disadvantage.

The urgent first step is to team with your counterparts to develop showcase projects.


Now things are changing fast. Modern supply chain IT is becoming more capable of dynamic management, assigning the right product to the right supply chain at the right time. Already, some competitors, like Wal-Mart, P&G, and Target, are using these supply chain innovations to sprint ahead of the pack.

Think about this image of the supply chains of the future. Products are flowing from suppliers to customers through linked intercompany supply chains that look like a network of pipes, valves, and reservoirs. The flow of products through the pipes and reservoirs of the system is determined by insightful supply chain managers working with their counterparts, using an intelligent, precise supply chain IT system that takes the factors discussed above into account.

As different types of products progress through their lifecycles, and as they flow to different types of stores or customers, the valves open and close to channel the particular stream of product flow into the right pipes and reservoirs. Supply chains thus will become much more modular, with products channeled into and out of predetermined flow plans as circumstances warrant.

Today, supply chain leaders can begin to take advantage of this huge new opportunity. The urgent first step is to team with your counterparts to develop showcase projects that specify and prove out new dynamic supply chain systems and processes. The key is to learn by doing in a thoughtful, limited way, then later to focus on scaling up the best systems and processes.

Sooner or later, competitive pressures will force companies to employ dynamic, differentiated supply chains, and there are compelling first-mover advantages. The supply chain managers who start to create these systems now will lead their industries for a generation to come.

See you next month. 

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