
Demand-Driven Flow

It's not just the product anymore!

Jim Ayers and Dave Malmberg

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Demand-driven flow – the concept

In the future, sales reps will find their “edge” lies in wrapping fast, targeted delivery systems around their products. Demand-driven flow techniques – in which inventory decisions are tied to actual customer sales – might be their best ticket.

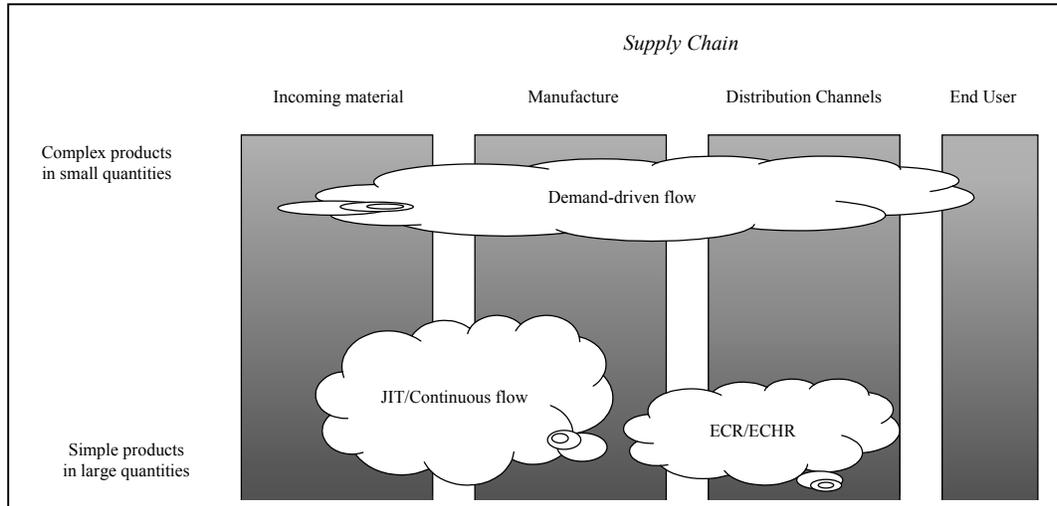
As customers for healthcare hardware face increasing cost pressures, they’ll demand more from manufacturers and distributors. The sales rep should take time to understand one of the newer terms in the health care supply chain lexicon – *demand-driven flow* – because it may offer you the competitive edge in your market. The term comes from a noble lineage, that is, a long line of labels describing product manufacturing and distribution methods. Examples include *JIT*, *Continuous Flow*, *Continuous Replenishment*, *Pull Systems*, *Efficient Consumer Response* (ECR) for the consumer products industry, and the recent *Efficient Healthcare Consumer Response* (EHCR).

In the future, demand-driven flow services may become as important in selling as products themselves. Reps will find their “edge” lies in wrapping fast, targeted delivery systems around their products. Their role will shift from a transaction to a relationship focus. They will “consult” their customers on ways to use demand-driven flow principles to reduce total supply costs. And they will collaborate with others in the supply chain – including manufacturers – to lower these costs.

Already it appears demand-driven flow will not be optional in some situations. Many of our clients are reducing their supplier base. In one example, a multi-national manufacturer is cutting its suppliers from 3000 to 300. The survivors share one characteristic: they are cooperating in the client’s demand-driven flow initiatives.

Manufacturers Spark Recent Interest

Manufacturers – particularly those with complex products – have sparked much of the recent interest in demand-driven flow. Forced toward “mass customization” by their end users, manufacturers must be fast on their feet to provide that service without massive inventories. That’s why they turn to demand-driven flow to cut cost and time in their supply chains. It’s a natural evolution from the listed initiatives above. The diagram below illustrates.



The diagram suggests that those already involved in supply chain programs – whether they’re suppliers, manufacturers, distributors, or retailers -- should have an easier job applying similar principles to demand-driven flow.

The term *demand-driven flow* reflects its approach to performance improvement. And that makes the direction and result easier to visualize. The word *demand-driven* denotes hooking production and inventory decisions to actual customer sales. Doing this reduces, but does not eliminate, dependence on forecasts. Here’s a key point: demand-driven flow substitutes knowledge of what the end user is actually buying for the dollars required for inventory and fixed assets. These investments are necessary when you have to guess, that is forecast, end user demand.

The word *flow* in the term means that cycle times are short throughout the supply chain. Flow is fast not slow. It’s easier to build to demand if lead times are measured in days rather than months.

The Wall Street Journal described the results achieved by IBM’s Personal Computer Division in implementing these techniques for a complex product.¹

	1997	1994
Models assembled at IBM plants	150	3400
Available options	350	750
Types of major components	200	400
Variety of parts in inventory	15,000	56,000
Parts replenished daily by suppliers	62%	5%
Per cent of U.S. PCs assembled by distributors	31%	0%

The table reflects an aggressive effort to restructure the supply chain, and in the process, change the roles of both suppliers and distributors. The article credits these efforts with turning around the business.

¹ “How IBM Turned Around Its Ailing PC Division,” *The Wall Street Journal*, March 12, 1998, p. B1.

But the transition is complicated. That's why implementing demand-driven flow is likely to be an evolutionary rather than revolutionary process. The parts for most products flow through multiple companies with each adding cost and lead-time. Making headway in reducing lead-time requires cooperative efforts. Furthermore, the organization must know why the ultimate customer buys the product. The need for knowledge also applies to the value added by intermediaries in the chain.

Sales reps are often the premier source of such knowledge. Unlike other supply chain participants, they link different parts of the chain together. They are the most intimate with the wants and needs of supply chain participants. They also provide early warning of competitive moves. If multiple parties – either upstream or downstream in the process -- must be educated or sold on the concept, reps will be involved. In fact, reps are indispensable for those companies that want to take an active approach in supply chain collaboration.

Implementation

Although implementing demand-driven flow is complex, most programs will proceed from analysis to experimentation and pilot implementation. The following steps are a backbone for planning and executing the effort.

Form a team. The team should include internal supply chain contributing organizations. In most companies, these include sales, production, logistics, engineering, and MIS. Suppliers and customers should also be welcomed. Sales should be expected to make the following contributions:

- Customer perspectives to be used in designing the demand-driven flow systems
- Competitor intelligence
- Price points, that is, what customers will pay for extra services
- Products to include and exclude from demand-driven flow
- Access to partners in the supply chain for other functions, such as manufacturing
- Forecasts for product sales and market penetration or retention

Set goals. Top management should set the tone with general direction. The team should provide specific objectives as it moves forward. Their goals should be ambitious, such as those in the IBM case. If the project involves cooperative efforts across several companies, then all should agree with the goals.

Map the supply chain. Understand the cost, lead-time, and value-adding steps as products move through the supply chain. This includes incoming material, manufacturing, and distribution channels, as well as paperwork, approvals, and engineering time.

Classify your products. Group products by factors tailored to the business. Examples include end user delivery requirements, profit margins, sales levels, economics of manufacture and distribution, reliance on suppliers, and so on. This will result in about five to ten categories around which you can build strategies.

Develop strategies. Each of the product groups from the step above will have a distinct strategy. This strategy will include make/buy mix, stocking, economic lot sizing, and the role of supply chain partners. Implementation can begin either with specific groups (a vertical approach) or with multiple groups focused on a step in the chain, like production or incoming distribution (a horizontal approach).

Two Case Studies

The following two case studies describe work at McKesson that took place while one of authors was vice president of purchasing and inventory management. They demonstrate how to extend ECR concepts back into the supply chain for simpler products. Although McKesson is primarily a distributor rather than a manufacturer, both cases followed the implementation steps outlined above. They also achieved benefits expected from demand-driven flow projects – i.e., lead-time reductions, simplification of product lines, and better service.

The first case deals with McKesson's efforts to simplify the flow of generic pharmaceuticals in its supply chain. Briefly the situation was this:

- Too many suppliers (over 200) and SKU's
- Extremely erratic production, shipping and order fulfillment by the manufacturers
- Generics stocked in (and replenished to) 45 separate warehouses
- Poor customer service (as measured by fill-rates) to its customers.

To address the situation, McKesson built a special distribution hub in Memphis for generic pharmaceuticals as well as other difficult to source and inventory products. The company also reduced the number of generic manufacturers it would stock to approximately 50. Each of these manufacturers was asked to deliver a monthly order to Memphis, rather than weekly orders to 45 separate warehouses, as in the past. To help the manufacturer, McKesson provided a rolling three-month demand forecast where the first month was a firm order.

The result of this effort was a “Win-Win-Win!” McKesson reduced the number of generic SKU's it carried by over 50% (without adverse customer reaction) while reducing total investment in these SKU's by about 25%. Its manufacturers increased their sales substantially, while smoothing production and simplifying delivery. The ultimate customers' service levels improved dramatically as fill-rates for these generic pharmaceuticals rose from the mid-80's to the high-90s.

In the second case, Wal-Mart and McKesson collaborated to make the supply channel between them more effective. McKesson had just won a three-year contract to be Wal-Mart's exclusive wholesale provider of pharmaceuticals and health and beauty products. The retailer wanted to get product to their stores' shelves quickly and without going through one or more Wal-Mart warehouses. They also wanted timely information about McKesson's fill-rates with the ability to measure them by store, by manufacturer and by SKU.

McKesson developed -- with Wal-Mart's involvement -- a new computer based system enabling McKesson to replenish the shelves directly using the demand-driven flow philosophy of "sell one – replenish one." The system also captured all of the fill-rate data that Wal-Mart needed – allowing them to focus on the exceptions.

Both partners enjoyed tremendous benefits. Wal-Mart reduced their inventory in these SKU's dramatically while improved their stock availability to their customers. McKesson was named by Wal-Mart as their "Supplier-Of-The-Year," and its contract was renewed when the prior one expired.

Jim Ayers and Dave Malmberg are with CGR Management Consultants based in Los Angeles. CGR consults in logistics and supply chain reengineering. Jim has consulted to healthcare and other industries for 27 years; he has published articles on the impact of managed care on that industry. Dave had a long career at McKesson and other distribution companies before joining CGR. CGR is a premier affiliate with the Expert Marketplace. Their websites are www.cgrmc.com and www.ayers-consulting.com. Their telephone number is (310) 822-6720.