



Demanding Times

Next Generation

Demand Management Practices

- Executive Summary -

By Bill McBeath

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About ChainLink Research

ChainLink Research is a bold new supply chain research organization dedicated to helping executives improve business performance and competitiveness. ChainLink was founded on the premise that supply chains are market driven and that the management of the links between the companies has become the key determinant of the winners and losers. ChainLink's fresh approach to supply chain research, actionable analysis and high-impact decision-making workshops helps manufacturers, retailers and technology firms enter new markets, expand share and achieve peak performance in their markets.

ChainLink focuses solely on supply chain. Our 3PE methodology encompasses the Policies, Processes, Performance and Enablers for realizing supply chain excellence. Our world-class team has created a rich knowledge base of timely, next-generation business innovations, practices and technologies such as supply chain networks and small/smart/fast technologies. ChainLink's customers have achieved dramatic business transformation and results that they could not get from other firms. We customize our research and findings to meet your specific objectives.

ChainLink Research bridges the gulf between supply chain managers and the CEO's team. Emerging and leading supply chain executives have recognized ChainLink as the foremost supply chain thought leader and action catalyst for the 21st century.

For more information, contact ChainLink Research Harvard Square Center, 124 Mount Auburn St., Suite 200 N., Cambridge, MA 02138 Tel: (617) 762-4040 ext 484 Email: info@clresearch.com Website: www.clresearch.com



Audience

This paper is aimed at helping all companies that face issues across the full spectrum demand management disciplines. This includes a broad range of companies, such as retailers, suppliers, and manufacturers, as well as service providers (for example transportation carriers).

Executive Summary

Achieving excellence in demand management—discovering, creating, growing, and fulfilling demand—is the core of market leadership. In the 90's, many saw APS systems and later CPFR as the 'holy grail' to solve forecasting and demand management problems. While these did result in some improvements, here we are a decade later, and many companies have thrown up their hands, accepting poor forecast accuracies, to focus almost exclusively on execution improvements and lead-time reduction as the only way to improve demand management.

However, a few forward-thinking companies have been able to rise above the crowd, not just in better forecasting, but across the whole process of generating, understanding, and fulfilling demand. Many of these next generation demand management practices have not received widespread attention to date. We set out to explore those demand management practices that are already providing a competitive edge to select, leading companies and use that knowledge to provide specific recommendations for companies seeking to improve their performance. Through our research, ChainLink has developed a framework to help practitioners understand and implement the elements of successful demand management (see Figure 1).



Figure 1 – ChainLink's Demand Management Framework



The design of successful supply chains is totally driven to meeting the needs of the marketplace and the end customer.

Discover Markets

Demand Management excellence starts with discovering and growing markets. Market leaders excel at spotting opportunities. They are obsessive about understanding their customers, markets, and all of the forces at work. They pour over demographics and economic data, absorb the views of the pundits and experts, have healthy internal discussions, and then formulate their own unique and bold view of where the markets are heading, with a vision for their own market strategy and product strategies to drive growth.

Create Supply Chains

The leaders excel at designing and implementing an optimal supply chain network that can fulfill their market and product vision. The design of their supply chain is totally driven to meeting the needs of the marketplace and the end customer. They build deep, strategic relationships with suppliers and partners to fulfill the needs of the market. In short, they aggressively pursue supply chain excellence to fulfill the demands of their customers.

Grow Demand

The leaders know how to predict and grow demand. They effectively segment their markets and channels. They use price intelligently and are smart about the use of promotions. They know when and how to do consensus planning, and are able to effectively improve their predictions about demand by staying on top of and incorporating changes to market assumptions.

Fulfill Demand

And finally, they excel at fulfilling demand. Rapid response forecasting enables them to quickly become aware of and respond to near term events. They maintain vigilance and visibility at each step of the fulfillment process to promptly fix any issues or delays that arise, and keep their customers appraised of progress. Scotts became Wal-Mart's "Supplier of the Year" for 2002 and Home Depot's "Partner of the Year" for 2003, largely due to their performance on service levels, responsiveness, and replenishment excellence. They were able to meet the demands of their customers.



In our research, we found specific practices that the leaders employed:

- Market Assumptions—Developing a deep understanding of target markets and injecting that understanding into important strategy and execution decisions, in a timely manner
- Consensus planning and S&OP—turning them from time sinks into high value activities
- Lifecycle management—improving product transition performance through postponement, lead time reductions, initial buy techniques, and better communications
- Consumption-based forecasting—based on sell-through¹ or point of sale data
- N-tier demand management—effectively dealing with the complexities of reaching beyond your immediate customer, to read demand signals to understand and fulfill demand
- POS Demand Shaping—selling what you have
- Risk Management—intelligently and effectively managing both demand and supply risk
- Demand Partitioning—selecting the best way to manage unique type of demand

While no one company has mastered all of these, we found that those that excelled at even one or two of these areas realized very real and substantial performance advantages over their competitors. The full paper examines each of these areas of next generation practice in detail. The following are example pages from the paper.

¹ Sell-through = actual sales by your customer or channel, rather than their orders to you.



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 Product transition too late / production ramp too slow—empty shelves, season missed, price erosion wipes out your margins, dissatisfied customers, lose market share to your competitors.

Because of these severe consequences, even slight improvements in product transition performance can have dramatic improvements to the bottom line. This is especially true in steep price erosion industries like high tech, but also in any industry where you frequently get stuck with too much or too little.

Lead-time to Product-life Ratio

It's important to understand that the challenges faced in lifecycle planning change a lot depending on the ratio of lead times to life of the product, as illustrated in Table 1 – Product Lifecycle Variants.

Type of Lifecycle	Lead-time to lifecy- cle ratio	Examples	Characteristics and challenges
One-time Buy	Lead-time nearly as long or longer than the full life of the product	High fash- ion, toys	All aggregate quantities are committed before there is any actual demand information. Very challenging when there are many SKUs, such as fashion with many sizes and colors.
Short- Lifecycle	Lead-time is a large portion of the total life (e.g. $\frac{1}{4}$ to $\frac{1}{2}$)	Computers, sunglasses	It's possible to do a second buy during the life of the product after some actual demand data has been col- lected. Lifecycle challenges are largely product transi- tion, ramp up, and EOL.
Replenish- ment	Lead-time is a small portion of the total life (e.g. 10% or less)	Paper tow- els, clean- ing prod- ucts	Managing ongoing demand assumes a more important role, but product transition, ramp up, and EOL are still important challenges.

Table 1 – Product Lifecycle Variants

Postponement, Transfer, and Early Demand

One strategy is to move your products down the curve, turning one-time

products into buy short-life products or short-life products into replenishment products, for example, by aggressively looking for postponement or differed-differentiation opportunities to cut lead times. The



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POS forecasting requires a system that can model the supply chain, and multiple steps to work backwards from POS demand to create a ship plan for the factory (see Figure 3). It must be able to model and adjust for lead times and inventory levels at each step of the chain, merchandising input (promotions, planned changes to product mix, pricing), and changes to market assumptions (competitors actions, such as new product introduction and price changes).



Figure 3 – Adjustments from POS Data to Ship Plan

Anything associated with a change in mix at retail level should be factored in as soon as it is known, usually months in advance. The retailers' POS forecasts (when available) should be compared by the supplier against their own POS forecast.

Order-based Forecasting

CPG's typical monthly forecasting cycle is largely dysfunctional. The lag between receiving information and incorporating it into the plan prevents rapid responses to significant events, such as forward buys. Account level forecasting has not delivered promised benefits because most demand planning tools are designed to predict aggregate demand across many accounts where there is a continuous stream of orders or sales. At the account level, each shipment is interpreted as a recurring "seasonal" demand spike. In reality, if the account just bought something, they're probably not going to buy it again soon. Completely different algorithms are needed. In addition, sales has very little solid information at the item/account level beyond the next few weeks, but is regularly asked for 3-4 months of promotions, many of which don't happen, or happen, but with different items. There is typically a lag of several weeks between getting the information from sales and publishing it to manufacturing.

The best companies are now updating the forecast *daily* based on meaningful events, and everyone executes to the most current, accurate numbers, not to something agreed to a month before. This requires new planning system algorithms that take into account not just



Demand BOM Explosion

Exploding a Demand BOM requires:

- Understand demand at the <u>OEM finished goods</u> unit level
- Knowing how many of each of the parts you supply are in each of your customers finished good units—i.e. 3 of part A, 6 of part B, 1 of part C
- Adjusting for share—i.e. 100% for parts solesourced from you, and some other known share (e.g. 33%) for parts that are multi-sourced

tomer's Demand"). In addition, many suppliers fail to effectively aggregate demand by channel for each major customer, though it is critical to understanding overall demand.

Effectively synthesizing demand across multiple channels requires close dialog with the OEM about demand at the finished goods level and systems that are able to explode a complex demand BOM against OEM finished goods demand (see sidebar). That is why it is important to monitor and forecast OEM sell-through rates⁵. Once these are in place, the dialogs with OEM about demand can shift from discussion about supplier's parts to discussion about OEM's finished goods, for which the OEM has longer-term data and forecasts than they have in their MRP plans for individual parts.

Avoiding The Multi-Counting Trap

Suppliers that are several layers removed from the end-customer in multi-tier supply chains are prone to confusion about true end market demand. Multi-counting of the same demand is a common symptom. For example: a large telecommunications carrier replacing their line of cell phones sends out RFQs to multiple phone OEMs, who in turn send RFQs to several contract manufacturers. By the time the demand signal gets to the supplier, it can be grossly overstated.



⁵ Sell-through means knowing your channels sales data, in this case the actual sales of the OEM, rather than consumption into their production lines.



Demand shaping is not a panacea to compensate for bad forecasting or poor sourcing practices. Ultimately, you cannot force the customer to buy something they don't want.

POS Demand Shaping

Virtually all companies do some sort of demand shaping using price, promotions, and sales force incentives to shape demand to meet various goals, such as driving traffic to the retailer or selling off excess inventory. But few have figured how to use something other than price to dynamically steer demand at the point of sale towards available supply and higher margin products. Dell is well known for making configuration lead-times highly visible at the point of sale. Because the consumer market for PCs is highly sensitive to lead-times, this has the effect of encouraging salespeople and customers to select items that are in-stock and steer demand away from items in short supply. Dell also pays sales commissions when the product actually ships, not when the order is taken, which further drives sales people to sell product that is readily available.

It should be said up front: <u>demand shaping is not a panacea to compensate for bad forecasting or poor sourcing practices.</u> Ultimately, you cannot force the customer to buy something they don't want. POS demand shaping's role in matching supply and demand is illustrated in Figure 6. If you have reasonable forecasting to get to say, 70% accuracy, and aggressively chasing supply gets another 20% towards fulfilling demand, then POS demand shaping can be used to tweak demand and close the gap for the remaining 10% without resorting to markdowns.





Figure 8 – Demand Partitioning Matrix

Usage—The purpose of the forecast (capital planning vs. production planning vs. distribution planning, etc.) is the ultimate guide for the ideal mix of methodology, responsibility, granularity, and information.

Topology of the Channel or Chain—Where a company sits in its supply chain, the nature of its channel relationships. E.g. Real-time POS information may be very useful for a CPG manufacturer selling directly to the retailer, but less useful to a semiconductor manufacturer deep in the supply chain.

Horizon—The time horizon of the forecast greatly influences the usage, granularity, analysis method, and other decisions about the best way to forecast.

Granularity—The granularity must align with the usage/decision.

Forecasting Method—Statistical modeling tools can be very powerful for certain types of forecasting and nearly useless for others.

Information—Deciding which information to incorporate in the process is key.

Responsibility—Giving the right person final responsibility for matching supply and demand.

The best demand managers partition demand intuitively. Currently, there are virtually no established methodologies. Taking a more systematic approach to demand partitioning should uncover even greater opportunities for improvement and this is an area of further research at ChainLink.



ChainLink's 3Pe™ Framework

ChainLink's 3Pe[™] framework encompasses the fundamental elements essential for successful supply chain management:

- Policy: Corporate, trading partner, and government policies impacting supply chain performance
- Process: Link processes-the interenterprise, bi-directional supply chain processes between trading partners
- Performance: Managing the links in the chain to maximize operational and financial performance
- Enablers: Technologies and third party services enabling advanced supply chain models

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Services for Supply Chain Excellence

Supply Chain Research Program

Our Supply Chain Research Program covers the 3Pe[™] elements– Policy, Process, Performance, and Enablers. ChainLink's in-depth reports provide essential leadership concepts, grounded in demonstrated success. Topical Areas for 2004 include:

- Managing the Links in CPG/Retail
- Managing the Links in High Tech
- Next Generation Demand Management
- Global Logistics
- The Service Supply Chain
- SmallSmartFast[™]–New Technologies for the 21st Century

We probe for the real story behind the successes and failures of supply chain initiatives. What drove decisions? What challenges were faced? Which approaches worked and which failed—and why?



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ChainLink's leadership program helps our technology clients successfully enter new markets and enhance their existing market presence. We offer full lifecycle services to enable your success including:

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- Brand Building

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ChainLink Workshops with executive management teams, create an environment for rapid, high-impact decision-making to drive business success. We focus your team to quickly prioritize and build consensus to kickoff key projects that achieve the fastest and largest impact on corporate performance.

The Winning Edge

To find out how ChainLink can help you achieve the winning edge through supply chain excellence, please contact us at 617-762-4040 ext 484, or info@clresearch.com





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HARVARD SQUARE CENTER, 124 MOUNT AUBURN STREET, SUITE 200 N., CAMBRIDGE, MA 02138 TEL: (617) 762-4040

Email: info@clresearch.com. Website: www.clresearch.com

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