

From the pages of Supply Chain Management Review

West Marine: A CPFR Success Story

**By Larry Smith -- 3/1/2006**

In 1997, my company, West Marine Inc., acquired an East Coast competitor, E&B Marine. The consequences were quickly apparent: Sales fell by almost 8 percent, and peak-season out-of-stock levels rose more than 12 percent compared to the prior year. We soon felt the effects on the bottom line: After six years of steady growth, net income dropped from \$15 million in 1997 to not much more than \$1 million the next year.

Fast-forward six years to 2003, when we purchased our largest competitor, Boat U.S. We successfully integrated their distribution center in just 30 days and their in-store systems inside 60 days. During the 2003 peak season, we had no supply problems in any of our warehouses or stores, and the acquisition was accretive in the first year.

What changed? Two words: supply chain. Into the late 1990s, West Marine had not fully recognized the value of effective supply chain management. After the tough E&B acquisition, our management team realized we had to make a significant cultural shift. Traditionally run by "boaters first and businessmen second" (as one manager put it), the company now had to be run with discipline. Part of the transformation involved overhauling our supply chain operations internally and with our suppliers. A crucial element would be the development of a supplier collaboration program based on collaborative planning, forecasting, and replenishment (CPFR) principles.

The company's approach has also led many of our key suppliers to shift their own views of supply chain management beyond the goal of improving retail in-stock rates. For some, this shift has been nothing short of transformative. I'm glad to report that the changes at West Marine and its collaborating suppliers are not one-time events. Together, we have developed a sustainable process of supply chain performance improvement.

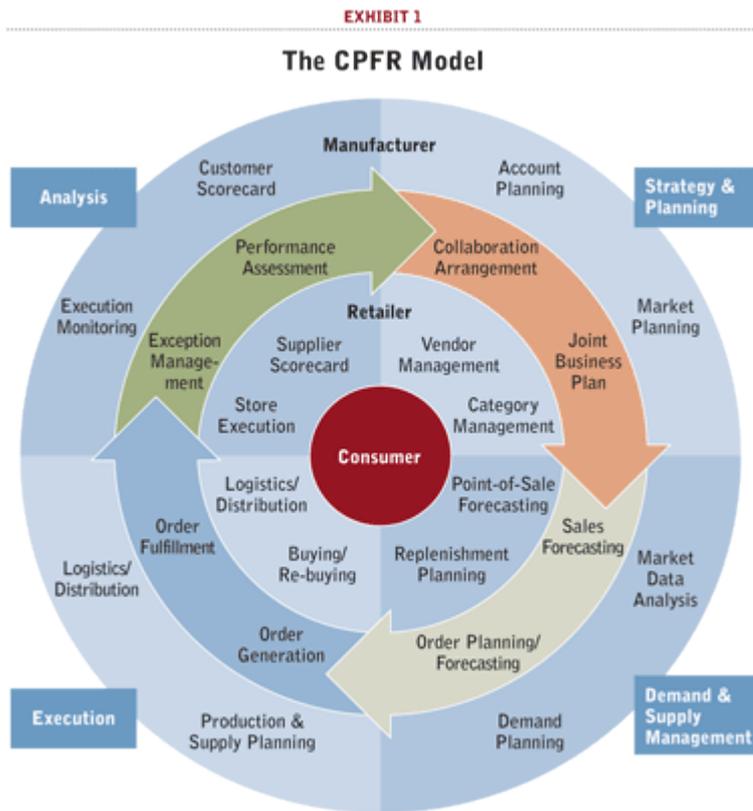
This article will chart West Marine's supply chain overhaul, showing how we absorbed CPFR principles and procedures into our operations. Importantly, I'll emphasize how we worked toward and achieved what we might call "full-strength" CPFR—an embrace of everything that the collaborative principle can do to create and sustain an adaptive, high-performance supply chain. I'll also describe the "how" of what we do to make it work—the techniques we used and still use to secure buy-in from suppliers and to ensure that their commitment sticks.

### **From Anchors to Wetsuits**

Founded as a mail-order firm in 1968 by avid boater Randy Repass, West Marine opened its first retail store in Palo Alto, Calif., in 1975. Three years later, the company created a separate sales channel to commercial customers such as boat yards and boat dealers. In 1987, the company published its first retail catalog. Today, with more than 400 stores and annual sales of \$690 million, West Marine is the largest boating-supply retail chain in United States. The retailer sells more than 50,000 products through its stores, Web site, catalog, and commercial sales arm—from stainless steel propellers and anchors to life jackets and wetsuits.

The after-effects of the E&B merger alarmed the board. It was clear to founder Randy Repass that West Marine needed deeper management bench strength. In late 1998, Repass and his fellow directors brought in a retail veteran, John Edmondson, as CEO, with Repass as chairman. Edmondson reinforced the senior management team and set in motion sizeable investments in new systems and processes. He hired David Schenk, an 18-year IT executive, as CIO. Pat Murphy came aboard as senior vice president of logistics; I arrived in 1999 to head planning and replenishment. Like my newly hired colleagues, I came from a Fortune-500 company; I'd been leading the supply chain planning team for Kmart Corp.'s \$8 billion apparel business. It was at Kmart that I'd first learned about CPFR, and I could envision its value to my new employer. We'd run some early CPFR pilots at Kmart. But I'd also attended a few conferences of the Voluntary Interindustry Commerce Standards Association (VICS), the body that oversees, upholds, and advances the CPFR standards and owns the CPFR trademark. I'd been to several of VICS' CPFR Committee meetings and presented at a few. Through my VICS activities, I'd met and worked with VICS president and CEO Joe Andraski; with Jim McLaughlin, Procter & Gamble's vice president of process and support services; Fred Bauman, JDA Software's vice president of collaborative solutions; Matt Johnson, then Syncra's chief technology officer; and with other thought

leaders who knew plenty about collaborative supply chain practices.



A word about CPFR: It's a business practice that combines the intelligence of trading partners to improve the planning and fulfillment of customer demand. CPFR links best practices in sales and marketing to supply chain planning and execution processes in order to increase availability while reducing inventory, transportation, and logistics costs. The concept crystallized in 1998 around the consensus that it was not enough to coordinate the supply chain within the boundaries of a single organization.

In its first phases, CPFR was interpreted as a linked sequence of nine business processes, backed by industry standards. But in practice, CPFR wasn't as linear as the nine steps implied. So today it is viewed as a wheel that can be entered at any point, as depicted in Exhibit 1. The implementation does not need to embrace every element to realize value.

### The Path to CPFR

Tackling our post-acquisition challenges in late 1999, most of our executive team thought we had four supply chain problem areas: the distribution centers (DCs), transportation, replenishment, and the systems supporting these operations. So logistics chief Pat Murphy set out to establish reliable DC operations and on-time transportation services. CIO David Schenk made sure the existing system infrastructure delivered timely

and accurate data processing. I concentrated on our replenishment performance (especially the in-stock levels in our stores), bringing it up to mid-90-percent levels and above—at par with most retailers' results at that time. As things stabilized during 2000 and 2001, management's perspective on our "supply chain problem" changed. Although our execution improved, suppliers were still having problems filling our orders. We also realized that West Marine was carrying too much inventory to make up for supply shortfalls. Supplier on-time order fills were a dismal 30 percent.

There's a crucial point to make here. Up to 2001, world-class thought leaders in CPFR wouldn't have considered our few initiatives to have been representative of what this technique could achieve. Although I'd begun articulating the benefits of CPFR not long after I joined West Marine, I knew it was a huge step for the management team to take. It would take time—and education. West Marine did approve moderate investments in IT systems to enable CPFR. But it took a further realization—that we actually had a vendor fulfillment problem—to reveal what was constraining our plans for growing the business. It was that realization that caused West Marine's management team to crystallize around the concept that would improve our suppliers' shipping performance.

Our first CPFR pilot program kicked off in January 2001. We recognized that for us to become a great supply chain company, we needed to change our core culture as well as execution. What was CPFR's role? The business practice clearly showed how we could improve performance using cross-functional and intercompany processes supported by enabling technology.

Now jump forward to late 2004, by which time we had 200 CPFR relationships, our suppliers' on-time order fills had improved to nearly 80 percent, and we were delivering 96 percent in-stocks during our peak season. Once again, West Marine's management team had to shift its perspective on the company's supply chain problems. We now saw that we had a supply chain planning problem in concert with our vendor partners. We wanted our supply chain to deliver better solutions, programs, products, and promotions. Because of our commitment to CPFR, we had moved from a push supply chain model to a pull model. We had implemented technology programs that established West Marine as a leader in supply chain execution. Yet excellence still eluded us. As our own view of the "problem" evolved, the lines also began blurring between supply chain improvements and business strategy optimization. It became clear that a rudimentary "textbook" approach to CPFR would not be sufficient. In effect, we had to look at, understand, and fully embrace the spirit of collaboration. That might sound flakey, but it's not. It meant addressing cultural issues just as much as business processes.

For West Marine and many of its key suppliers, CPFR is a core business process that provides a path to accelerated performance improvement. Its role is similar to the organizational improvements wrought by corporate and supply chain programs in quality improvement, lean/Six Sigma, the Supply Chain Operations Reference (SCOR) Model, and sales and operations planning. Such programs provide specific process maps and an integrating philosophy that help organizations to become more adaptive and performance-driven. We identified 10 performance-improvement steps that reflect our "full strength" approach to CPFR:

1. Seek long-term, holistic solutions, not quick or myopic fixes.
2. Reconcile conflicting goals and metrics.
3. Pursue inclusive problem-solving; do not depend upon "experts" who don't have accountability for the business.

4. Instill collaborative processes that encourage idea creation, shared problem solving, and high adoption rates across organizational boundaries.
5. Use a disciplined and iterative set of methodologies such as CPFR, SCOR, or Six Sigma to help teams define issues, root causes, and solutions.
6. Develop a culture of continuous improvement, particularly at the customer-facing associate level, because those employees are most likely to know what's needed.
7. Create clear accountabilities and assign authority with a focus on core business processes rather than on traditional organizational "silos" or loyalties.
8. Commit to technology enablement for execution, communication, exception management, and root-cause analysis.
9. Reduce decision cycle times.
10. Implement rapidly.

While these 10 elements could come from any number of sources, Hau Lee and Jason Amaral's "Supply Chain Management Performance" paper from the Stanford Global Supply Chain Management Forum has been particularly useful. The article refers to the "adaptive organization," which ensures a continuous focus on the right things through responsiveness and balance. The entire organization is performance-driven; it sets goals, addresses root causes, and leaps on competitive opportunities. This is what West Marine is striving to become.

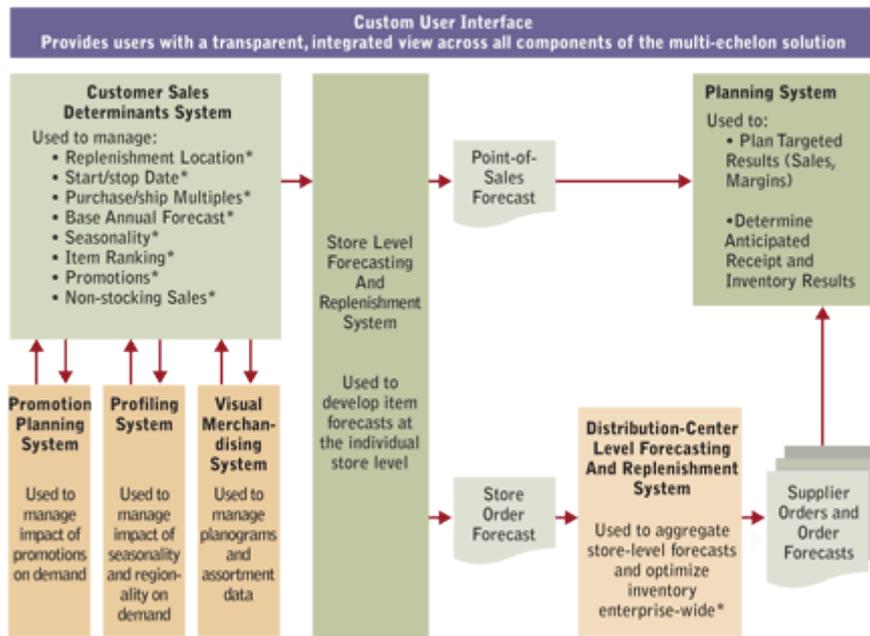
### **The Right Replenishment System**

Technology enablement was an essential precondition for our CPFR successes. To our knowledge, West Marine is the first consumer-goods retailer to implement an aggregate ordering or "multi-echelon" replenishment process. A "multi-echelon" replenishment solution integrates the forecasting and replenishment solutions in a retailer's stores and warehouses. Data such as seasonal forecasts, promotion stock levels, and future assortment changes are automatically calculated so that the retailer gets a reliable projection of its future orders and so that suppliers can continually deliver accurate, on-time orders to the DCs. The resulting order forecast is in the form of machine-readable data that can be entered into a supplier's materials requirement planning (MRP) or enterprise resource planning (ERP) system to represent a key customer's demand. While third-party solutions are available, very few retailers have completed similar installations as of this writing. This is something of an enigma, given how long CPFR has been around and how much it has been discussed. (I'd once predicted that retailers would quickly embrace new replenishment systems. But I think I underestimated the ability of companies to hang onto the status quo.)

Retailers' conventional installations of automatic replenishment and forecasting software run on parallel but unconnected systems at store and warehouse levels. The store system uses actual customer-purchase data to forecast future customer purchases and what the store needs to order to support retail-service levels and in-stock levels. But the warehouse system uses actual warehouse-shipment data to forecast future shipments and what the warehouse needs to order to support their service and in-stock levels. In other words, the warehouse system has no data about store-level overstocks or understocks, and promotional needs must be forecasted in both platforms. Changes in demand—caused by product-mix changes in the store, for example—aren't communicated systemically to the warehouse-level replenishment system. Imagine a situation in which last year's major store promotion will not be repeated this year. Using the disconnected replenishment model, the historical-shipment information might still include last year's promotional-inventory build, and the warehouse-replenishment system would purchase according to last year's demand, thus overstocking the DCs. It happens all the time.

West Marine's multi-echelon replenishment solution resolves the store-warehouse disconnect. Warehouse replenishment immediately responds to all store-level overstocks and understocks. Similarly, all promotions and store-level assortment changes are planned in the store system, and warehouse replenishment immediately responds to them. The solution eliminates duplicate forecasting tasks and creates more accurate supplier-order forecasts. (See Exhibit 2.)

West Marine's Supply Chain Planning Technology



\* Prior to the implementation of the multi-echelon solution, these activities were performed manually (or not done at all).

In contrast to many CPFR initiatives where ordering is constrained to the forecast, West Marine issues orders in an unconstrained manner each business day, as recommended by the system. That way, we're always purchasing optimally, based on the latest sales and planning information. We set a requirement that all processing needs to be accomplished nightly, recognizing that timeliness is key to accuracy. Fully 97 to 98 percent of the items at West Marine are managed through automatic forecasting and replenishment, and we conduct our entire process, from point-of-sale updating to supplier-order forecasting, every night. Any change in store-level replenishment will automatically be processed in the next day's supplier order and order forecast. Based on the robust forecasting capabilities of our existing JDA/E3 forecasting systems, the supplier-order forecasts we generate daily are by item, warehouse, and week for a year.

CPFR Alternatives

Alternatives	Sales Forecasting	Order Planning/ Forecasting	Order Generation
Option A: Conventional Order Management	Retailer	Retailer	Retailer
Option B: Supplier-Managed Inventory	Retailer	Manufacturer	Manufacturer
Option C: Co-Managed Inventory	Retailer	Retailer	Manufacturer
Option D: Retail Vendor-Managed Inventory	Retailer	Manufacturer	Manufacturer

West Marine's choice of supporting IT systems sprang from a decision to pursue a particular strategic approach to supply chain collaboration. When we were launching our CPFR effort, many CPFR pilot initiatives involved a limited number of items and suppliers, with both the retailer and the supplier providing forecasts. But an alternative CPFR approach—called "Option A" in the list of CPFR alternatives shown in Exhibit 3—envisioned the retailer as the lead partner, providing the enabling technology platform to generate sales and order forecasts that suppliers can use to improve order fulfillment. The retailer has primary responsibility for the

reference forecast.

West Marine is an unabashed proponent of Option A. It was our choice because we believed it was more likely to deliver the improvements needed to achieve a scale that would influence enterprise-wide results. So we focused on getting our buyer-driven forecasts and processes in line before reaching out to suppliers. Our position has been that there needed to be a reference forecast at the outset, and it's the buyer who has to own that. Why spotlight the buyer-driven forecast? Two reasons: (1) the buyer usually drives the key events like promotions and assortment changes that crack the "bullwhip" in the supply chain, and (2) the buyer-driven forecast depends on only one technology platform and is therefore scalable across many items and suppliers with similarly accurate results.

However, our advanced replenishment system did not relieve us of the need to collaborate with suppliers with respect to changes in demand. Each supplier and product presents different opportunities and solutions. A supplier for a product featuring generic components that uses short-cycle final assembly or packaging processes may be able to respond to demand changes with reasonably short lead times without the need to expedite or without production disruptions. But a supplier of a product with individualized components or specialized packaging cannot respond as quickly. In the world of retail, longer lead-time products simply must be planned for and fully forecasted ahead of their sourcing and manufacturing lead times. For example, if the supplier's order cycle is six weeks and the demand changes occur inside two weeks, demand will be satisfied only if there's sufficient excess stock in the supply chain to cover the new demand.

West Marine has made a significant commitment to working with suppliers to match supply and demand. We have agreed together to the goal of planning demand accurately to accommodate their materials planning horizons. For instance, our normal lead time for planning promotional sales events is about ten weeks before the promotion begins. If the products promoted are of import origin, the supplier's lead time is significantly longer. With this in mind, most key promotional events are not only strategically planned but entered into the forecasting system months in advance to enable suppliers to fulfill them. Since this is a collaborative engagement, the supplier is a full participant in supporting and approving the forecast, which they receive weekly. West Marine also measures our forecast accuracy in addition to suppliers' shipping performance and other metrics. To make our commitment very clear to skeptical suppliers, we have also guaranteed our forecasted purchases. Generally, our suppliers believe in and act upon this guarantee.

West Marine supports its CPFR program by providing the following reports to its collaborative supplier teams: (1) a weekly automated e-mail containing our current purchase forecast by item and week for a year, (2) a weekly automated e-mail containing key in-stock and late-shipping information, covering the metrics achieved and the items that failed to meet goals, and (3) a monthly automated e-mail giving audit-level detail and performance measurement on each supplier's shipping record based on the supplier's advanced ship notices.

### **Multiple Routes to Supplier Buy-In**

West Marine's supplier education program is the centerpiece of our strategy to improve our performance. (See sidebar for an example of how one supplier has embraced CPFR.) Prior to our CPFR program, the only contact a supplier might have with West Marine (outside of the traditional buyer-seller relationship) was usually with a customer-service clerk. Today, all of our collaborative suppliers join our monthly and quarterly meetings. Before a supplier can enter a collaborative engagement with us, one of its senior executives must sponsor the arrangement, and the supplier must name a point person to partner with our "supply-chain captain." We encourage the point people on both sides to be powerful collaboration champions in their respective organizations. Some suppliers have appointed Six Sigma Master Black Belts as their point people—a real vote of confidence in the program. At least ten suppliers have dedicated vendor associates located at West Marine's facilities.

Our CPFR program demands that West Marine and its suppliers address supply chain performance as a cross-functional business process. Fundamentally, CPFR has caused West Marine to adopt cross-functional management and accountability, and it is producing similar outcomes for our suppliers. As they adopt team approaches to conducting supply chain activities with us, they also start to harmonize conflicting "silo" goals and metrics throughout their operations.

We have several forums for our CPFR engagements with suppliers. An engagement usually begins with a quarterly meeting. Since CPFR aims at holistic, long-term solutions, participation in a quarterly kick-off session requires us and the supplier to bring cross-functional teams who all contribute to the results and who are important stakeholders in the decisions that will be made. These stakeholders must include senior sales, marketing, and merchandising personnel along with the decision makers who manage the relationships for buying, forecasting, inventory control, production planning, distribution, and transportation.

The quarterly meetings are held at our offices or at the supplier's location; they usually entail a half day devoted to supply chain collaboration and a half day devoted to sales and marketing planning. The supply chain portion will include a session on West Marine's bottom-up forecasting process and a wide-ranging discussion of initiatives and opportunities. The initiatives are detailed by our supply chain captains, who must manage the solution process and timeline. Since senior executives are present, each side is expected to commit to resources and timelines for the improvements identified. We don't advocate a formal collaboration agreement, but we do expect a flexible commitment to our mutual success from both sides. (In our experience, bringing the lawyers into a contractual review often creates an insurmountable hurdle.)

As with the quarterly meetings, the "routine" or monthly meetings have defined formats and expectations. The format is usually a conference call attended at least by the two partners—our supply chain captain and theirs. The meeting is usually kept to about thirty minutes to make it efficient and effective and to encourage other key participants to attend, since they can expect the meeting will be concise, businesslike, and productive. (The president of one major supplier has not missed a routine meeting in over two years.) The agenda is three-part: review results (performance metrics for both sides); report on and manage current (or newly defined) initiatives by assigning clear owners, accountabilities, and deliverable dates; and resolve any supply chain constraints identified through review of the order forecast.

A special feature of our program is the twice-yearly Supply Chain Summit. The idea came from our category managers (our buyers). Once they learned about the structure of our collaboration effort and understood that we were committed to helping suppliers deliver the goods for their sales and marketing programs, they asked how we could "jump start" the program with more suppliers as soon as possible.

The summit conference follows a three-day format at a West Marine facility. It includes as many members of the collaborative teams as possible, and suppliers' senior sponsors and sales and marketing associates are required to attend. The first and third days are reserved for quarterly meetings with about 25 suppliers. The second day is for plenary sessions designed to inform and support team-building and cultural change. We typically begin this day at our nearby distribution facility where members of each supplier team and their West Marine counterparts roll up their sleeves and physically unload and receive one of their shipments at our loading dock. Our DC team then leads a presentation on our logistics compliance program. Our CEO or general merchandise manager usually kicks off the afternoon to signal the extent of our commitment to collaboration. Other sessions address transportation management, electronic data interchange (EDI), and supply chain planning. The summit closes with a dinner that celebrates progress and partnership; attendees are invited to recognize others whose collaboration has helped them to break through silos.

or other barriers to improve performance.

There's one other collaboration forum that's important. We have initiated training sessions for key suppliers' top executives to develop insight and commitment to achieving what we call "breakthrough" performance. West Marine has picked 19 suppliers to participate. At the debut Breakthrough Session—a two-day retreat that was professionally facilitated—West Marine and the supplier partners signed a broad and powerful statement that reads: "We commit to breakthrough results for us and West Marine." Each executive agreed to commit his or her organization to the agreement. We did not submit this statement to legal review but did agree it would be placed prominently in our workplaces. At our facilities, the statement has been posted in every conference room where we meet with suppliers.

The response to these executive sessions has been astonishing: Our suppliers requested breakthrough training for all members of the collaborative engagement. We agreed, and we've now held a session for more than 100 of the breakthrough suppliers' associates.

### Internal Collaboration Also Key

It has also been important to ensure that we are collaborating effectively inside our own four walls.

That's been particularly true within the merchandising function. Traditional retail merchandising organizations have two primary organizational "silos": buying and replenishment. For years, we had co-located our buying and replenishment functions and organized them as teams around product areas. But many silo viewpoints and practices remained, impeding holistic decision making and execution. Category managers and their assistants operated primarily as sole practitioners. Merchandise planners and replenishment analysts often dealt with supply chain management as a downstream effort. Communication between the co-located teams was often pretty poor. Merchandising associates owned sales and margin. Replenishment associates were responsible for inventory and service levels. Yet many of the specific responsibilities were ill-defined and inconsistent. For instance, since initial product forecasts and store-assortment decisions were the purview of category management, some of the most important determinants of inventory performance were not the job of the inventory management group.

We have now transformed our merchandising organization into a best-practice model in which the perspectives of replenishment and merchandising are equally valued and balanced. Associates are expected to benefit from significant cross-training and career paths that incorporate both replenishment and merchandising. The category managers have given up tasks such as forecasting and store assortments that we consider more appropriate for planning and replenishment associates. Assistant category managers are no longer junior buyers. They are responsible for administering product hierarchies, maintaining product information, and managing trade funds. The merchandise planner is now the business planner, responsible for financial plans and forecasts, key item forecasts, store assortments, lifecycle management, and promotional management and analysis. Meanwhile, our replenishment analysts manage the supplier collaboration process, purchasing, and store replenishment.

Another key to our performance improvement has been the close working relationship between logistics and planning and replenishment. Logistics chief Pat Murphy and I are kindred spirits in understanding the workings of the supply chain. We both recognized that merchandise planning determines the timing and volume of logistics activities. Early on, we established quarterly planning meetings and a weekly combined staff meeting to develop strategies and provide root-cause solutions. Of course, these groups had a common resource in the rich forecast information coming from planning and replenishment. They used this information to plan strategically and tactically together. Among the key benefits obtained were more standardized packaging for outbound shipments, which affected over 80 percent of the DCs' variable costs. Our use of standard packs has gone up from 15 percent to 55 percent.

### Results Speak for Themselves

It has been a long, hard slog to do what we have done to date. From piloting our CPFR-based program with a handful of suppliers, we have now extended it to 200 suppliers and more than 20,000 items, representing more than 90 percent of our procurement spend. More than 70 of our top suppliers are loading the West Marine order forecast directly into their production planning systems. In-stock rates at our stores have come close to our goal of 96 percent in every store every week—even during our peak season. Forecast accuracy has risen to approximately 85 percent, and on-time shipments are now consistently better than 80 percent.

Our collaborative supply chain journey is by no means over. The competitive landscape will change, our supply base will shift, and our customers' demands will be different a decade from now. But we are pleased with where we are so far. The results, we believe, speak for themselves.

### Sidebar

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**With revenues ten times those of West Marine, it seems unlikely that ITT Industries would have much to learn about business processes from a boating supplies customer of its pump division. After all, ITT leads Forbes Magazine's December 2005 list of the seven best-managed conglomerates in five-year total return.**

**Yet ITT's Jabsco division has incorporated West Marine's CPFR approach, coupling it with a lean/Six Sigma framework, to develop an adaptive, high-performance organization that collaborates across the extended supply chain. The results of Jabsco's initiative have been dramatic: In 2004, manufacturing cycle time fell from 25 days to three days, overall sales increased by 11 percent, labor hours were cut by 17 percent, and on-time deliveries increased from 74 percent to 94 percent.**

**West Marine is Jabsco's largest customer. But in 2002, the pump maker was in danger of losing the**

business. Its on-time delivery was a dismal 10 percent, and it was struggling to comply with our EDI program. Our in-stocks of Jabsco products were always low, and the supplier didn't seem to be able to manage its capacity requirements predictably. Given ITT's emphasis on business process, observers could be excused for thinking there should not have been a problem. ITT had invested more than \$35 million on Six Sigma training and had 350 certified Six Sigma Black Belts and 10,000 certified Green Belts.

The change began after Nick Hill, then Jabsco's president, attended West Marine's first "breakthrough" meeting. Hill learned that his company seemed to be missing a central tenet: the voice of the customer. Although Jabsco was using lean manufacturing to emphasize efficiency—cutting costs, controlling resources consumed, and reducing rework—it was not highlighting effectiveness issues such as on-time delivery and customer satisfaction. Jabsco lacked the processes to capture demand information, let alone use it; managers didn't understand why customer-responsive processes were needed.

EXHIBIT 4

ITT's Stages of CPFR Progress

Process Area	Basic	Developing	Advanced
Collaborative Processes	Limited One-Way Communication	Standardized and Integrated Collaboration	Computer Assisted Integrated Collaboration
Planning and Forecasting Processes	Manual Non-Standard Forecasting and Planning	Standardized Demand Data Creation and Input	Integrated Planning, Forecasting & Collaboration
Replenishment Processes	Pre-DC Limited or No Retail Visibility	DC Replenishment Focus	Computer Assisted Retail Ordering Flow Through
Supply Chain Management	No Supply Chain Focus or Plan	Internal Enterprise Optimization	Supply Chain Optimization

Hill appointed Jabsco Six Sigma Master Black Belt Mike Feeney to improve performance—and the relationship with West Marine. Learning about CPFR from us, Feeney absolutely "got" what we were trying to do. He championed the idea that CPFR and Six Sigma are symbiotic, and he knew that Jabsco had to go further than just putting in place cross-functional sales and operations planning processes. Instead Jabsco needed to move by stages toward advanced process implementations. (See exhibit 4 above.) Today, Jabsco's commitment to supply chain improvement is evident in its investments in enabling technology, the largest of which is a Web-based supply chain performance management application. Used throughout Jabsco and by its own supplier base, the system provides current demand and production visibility and decision support.

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