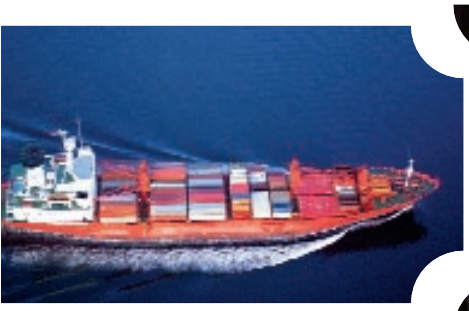

What really works

What are the best practices in supply chain management? The first survey in an ongoing research project hints at some surprising answers

By Kevin McCormack

What are the best practices that make supply chain management an effective discipline? The answer is far from obvious. As the concept of supply chain management has grown in popularity, it has taken on so many different names and forms that it has become increasingly difficult for would-be practitioners to grasp and communicate to colleagues.

"Supply chain optimization" is different from "supply chain collaboration," which is different from the older but still frequently used "logistics" and "distribution management." Yet the terms represent practices that overlap. The newer umbrella concept of supply chain management should help sort things out eventually, but in the short-term it may actually increase confusion.

For those of us who work as consultants, the questions we hear from exasperated clients come down to "What works and what doesn't?" and "Where should we start?" Ready answers are simply not at hand. The conventional wisdom says, for example, that automatic customer replenishment is essential to a well-managed supply chain. Is it really? To cite another example, how rigorous do demand forecasts need to be to become effective supply chain management tools? These are issues that stump — or should stump — even the most fervent believers in supply chain management.

Complete Business Solutions Inc., with the sponsorship of the Supply Chain Council, has undertaken an ongoing study that statistically identifies the practices and principles that correlate to effective supply chain management. The two organizations have begun creating a multi-year database that allows supply chain management practitioners to compare prac-

tices within and across industries and to look at them in a historical context. This is significant because what was considered a best practice in 1998 may well appear less effective in 2002.

The initial survey

In framing questions for our initial survey, we used the Supply Chain Council's model for describing and measuring supply chains. This model is intentionally holistic and includes suppliers and *their* suppliers as well as customers and *their* customers. Called the Supply Chain Operations Reference (SCOR), the model focuses on the four key process areas: plan, source, make, and deliver. For each of these areas, we developed questions and pre-tested them on several Supply Chain Council members and well-established supply chain management experts.

Questions in the source category included "Is there a procurement process team designated?" and "Does this team meet on a regular basis?" along with six related questions. Questions in the make category included "Do you have weekly planning cycles?" and "Are supplier lead times updated monthly?" plus five other questions.

Questions fell into two general categories. One set of questions asked the "what" of the supply chain decision process and focused on methods or techniques (e.g., "Do you use statistics to forecast demand?"). The other set of questions asked "how" and referred to the strategy or philosophy for implementing the process (e.g., "Do you designate a clear internal owner of the demand management process?" and "Do sales, manufacturing, and distribution organizations collaborate in developing the forecast?").

In all, each respondent answered 35 questions that covered virtually every control point of the sale-to-delivery cycle. Each respondent answered by ranking his or her company on the well-known Likert Opinion Measurement scale. That scale offers five possible choices for assessing an activity:

1-never or does not exist
2-sometimes
3-frequently
4-mostly
5-always or definitely exists

Over the years, this scale has proven to be one of the most effective tools for self-evaluation and obtaining a person's degree of agreement on a statement. It is also used to predict behavior and its impacts statistically. It permits analysis of variation and the gray, everyday realities of business life with statistical rigor.

The survey's initial 43 participants represented manufacturers ranging from pure material processors to makers of discrete parts. Some served primarily industrial markets, while others sold directly to consumers.

Although the survey used a relatively small sample, participants represented a good cross section of the U.S. manufacturing industry. And because many of the practices that were measured correlated so strongly to successful supply chain implementation, the study, even in its initial phase, already points to some remarkably clear implementation guidelines.

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What really works

It should come as no surprise that accurate sales forecasts matter. Indeed, the sharpest division among study respondents occurs around this question. Virtually all companies that find their forecasting methods credible and accurate also say that supply chain management works for them. Those companies whose organizations regularly doubt the validity of their sales forecasts also say that supply chain management does not yet do its promised job. The statistical correlation to performance underlying this issue falls out at 0.7 (versus a perfect correlation of 1.0), a number that business statisticians will recognize as clearly representing a very strong relationship. In the real business world, it's difficult to find data more unambiguous than this.

It stands to reason that if any company wishes to implement effective supply chain management, the quality of sales forecasts must become one of its top priorities.

And as the study also makes clear, organizations working with accurate sales forecasts almost always employ three techniques:

- Using historical data to develop forecasts
- Supporting the historical data with predictive mathematical models
- Holding weekly planning sessions in which managers make buying, hiring, and other commitments

Employing all three techniques in parallel allows managers to make incremental rather than abrupt adjustments. Is it better to pay people to do nothing for a while, believing that orders will pick up soon, or begin a few layoffs right away? Accurate numbers and frequent assessments keep everything on a relatively steady course and allow such questions to be addressed.

Successful supply chain management, however, requires more than solid forecasting. The second crucial indicator of success is the degree of collaboration and integration among departments within the company and with outside partners. The most obvious form of collaboration is sharing planning and scheduling information with suppliers, something that is highly correlated to supply chain management performance.

Interestingly, the study indicates that such practices are not yet as broadly

implemented as the supply chain press or consultants often suggest. Of those surveyed, only half share planning and scheduling data with suppliers. Our interpretation of this one-time sample (which will one day become a single data point on an extended timeline) is that information integration with suppliers, while still only partial, is becoming easier as companies realize its value. However, it may never become a universal practice.

What may not have much effect

Several "best practices" that consultants often propose as solutions appear, in this survey, to have limited impact on supply chain management performance. These include automatic replenishment of customer inventories and tracking customer requests vs. actual deliveries. A high percentage of respondents say they employ both practices, yet correlation with supply chain management success proves minimal. One can easily speculate that automatic replenishment runs up against the issue of trust between two legal entities and may not be fully implemented. It's a rare corporation that will permit suppliers to control orders and deliveries.

As for tracking customer requests vs. actual deliveries, that's the easy part. Merely measuring the relationship doesn't really get you far. The hard part, which only a few companies such as Dell and L.L. Bean have achieved, is to turn those requests into almost instantaneous deliveries, which makes requests and actual deliveries synonymous.

Another area in which correlation proved less than anticipated is information technology support for supply chain management. IT support for each of the four SCOR areas, while present, came up well short of the measure necessary to be statistically significant to supply chain management success. This finding lends credence to other, well-publicized studies that show only half of IT projects (including supply chain management projects with a heavy IT focus) deliver expected business results.

Clearly, all these findings indicate that supply chain management is much more complex than just information technology. The study strongly indicates that supply chain management is primarily an organizational and people issue. This reveals how difficult true cross-functional integration and collaboration is for many organizations. Although enabling technologies make supply chain management easier, they are not in themselves sufficient. It's the old story: There are no silver bullets.

Where we go from here

As the study expands over time, a more complete picture will develop. Of special interest will be comparisons of practices among industries, something for which there is currently too small a sample to discern. It would not be surprising to learn that many apparently universal supply chain management practices are, in fact, highly industry-specific.

As the sample size grows, the results should reveal which general practices have the most complementary impact. The ultimate goal is the creation of an easy-to-use tool — a supply chain management maturity scale, if you will — that tells users "You are here." Then people attempting to implement integrated supply chain management will know a very important thing: How far do I have to go? ◆

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