Discipline: Supply Chains

Rooting Out Supply-Chain Costs

It takes more than technology to keep your supply chain humming. CIOs need to first look at corporate strategy, management mind-sets, and operational processes to determine what's really driving costs.

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The first step toward finding and funding effective supply-chain improvements is to understand where your costs originate.

Many CIOs think this is outside their province, which they view solely as implementers and operators of systems. But Dell, General Electric, Herman Miller, and Wal-Mart would disagree. They lead their industries precisely because they found the right mix of strategy, operational discipline, and cutting-edge IT. If you're willing to shoulder the responsibility, taking a lead in supply-chain improvements can be a stepping stone to a broader role in corporate strategy and planning.

Most of the technology solutions needed to address supply-chain costs lie outside the backbone systems that are the basic plumbing of most companies. In fact, the job of keeping these backbone systems running is headed for outsourcing in a high number of companies. Increasingly, solutions to root out cost will be unique to the company and its supply chain—and implementing them will bestow competitive advantage by virtue of this uniqueness.

Described here are four root causes of supply-chain cost and the issues CIOs may face in choosing technologies to reduce those costs.

1. Lack of clarity. Accounting for supply-chain costs rarely goes beyond financial-reporting requirements, and as a result, it obscures, rather than draws out, the details. In the supply-chain context, costs are spread across multiple companies, all of which use similar accounting rule books but have varying levels of willingness to collaborate on cost reduction.

In response, some companies invest significant time and money in activity-based costing (ABC) software. Too often, this brings complex procedures for tracking activity costs that have to be maintained alongside the regular books, which overwhelms the primary task of finding process improvements. Nevertheless, an ABC view of costs is desirable. Implementing ABC should be part of the process analysis and discussions involving inter company collaboration in investment and savings sharing. However, a one-time or occasional ABC analysis is sufficient to root out supply-chain costs that are higher than they should be, and CIOs should insist on such a limited version.

Resistance to this approach might come from the line-of-business users, who protest that gathering the costs in the ABC format takes time. Surprisingly, resistance also might come from the CFO, who believes old-style financial reporting is sufficient for justification. In fact, a total lack of ABC indicates a sloppy proposal—and IT will be blamed if the effort is a dud because one was not done.

2. Variability. The proposed answer to problems associated with variability is often an IT solution to improve supply-chain visibility. Almost all ERP, supply-chain, and transportation- and warehouse-management systems claim to aid visibility, but they provide a way to view only the effects of variability—the symptoms, not the causes.

The root causes of variability come in two types: variability that's inherent in processes and variability caused by management behaviors. The former is amenable to process engineering, such as Six Sigma techniques based on digitization of processes; that's the approach taken by practitioners such as GE and Honeywell. Other solutions include more reliable machine tools, process controls, worker training, and quality materials. Effective solutions can be formulated using a thorough process analysis. Because that's hard work, companies often look for an IT solution rather than fix the root cause.

Management behaviors are more difficult to change. In many companies, for example, the end of the quarter brings a desperate push to book more revenue. This leads to all kinds of distortions in the supply chain. People scramble to find product to ship; suppliers interrupt schedules to handle rush jobs. One company even pulled products out of inventory for reconfiguration.

This "hockey-stick" pattern of activity is common, but the solution isn't additional IT. What's required is a fundamental change in management's mind-set. As part of the executive team, the CIO has every right to direct attention toward the causes when a technical solution is proposed for problems related to variability. Issues to point out are the expense and risk of technology compared with that of changing the culture. Leading companies use the tools of just-in-time, or lean, manufacturing, pioneered by Toyota, to combat these bad habits. A core feature is level production driven by a steady drumbeat. A current movement is to combine Six Sigma and lean techniques; the Society of Manufacturing Engineers (www.sme.org) and the Supply-Chain Council (www.supply-chain.org) can help CIOs learn more about this blending process.

Another management failure is over reliance on forecasts, a symptom of the excessive cycle times that result from poorly designed supply chains. The solution isn't more investment in forecasting but a better supply-chain design. This too is fair game for CIO action.

In Spain, for example, Lucent Technologies developed a "3C" alternative to ERP, based on commonality, consumption, and capacity. Traditional ERP relies on forecasts, leading to a "push"-type supply chain heavily laden with inventory, especially when the forecasts prove wrong. 3C is demand-driven, exploiting the commonality of end-item parts. It's proven very effective in lowering costs.

3. Product design. This has a profound effect on supply-chain costs. Poorly devised designs increase supply-chain complexity—another driving force for more elaborate systems to track the mess. Poor design discipline also results in too many products and variations, the use of out-of-production components, hard-to-make and hard-to-fix products, and faulty products that result in complex return processes. There are excellent software applications for product development, but again, the key is to address these issues before diving into new technology.

Herman Miller, the Michigan-based maker of office-furniture systems, did this with an IT-enabled design-manufacture-deliver process. The resulting network of integrated supply-chain activities cut lead times for its products to a fraction of the industry average. The technology included a mix of legacy, off-the-shelf, and new software applications that were integrated from the initial sale to installation at the customer site.

4. Information sharing. Persuading supply-chain partners to share information is a cultural, not a technical, challenge. How often and how well do you communicate with your supply-chain partners? Is the communication broad—that is, does it extend beyond buyers and sellers in your respective organizations? A tradition of a narrow range of communications spells trouble for future information sharing.

Supply-chain information sharing, or collaboration, is progressive: Sharing will build gradually as a relationship develops. Often this is a top-down process that starts at the CEO or CIO level. Here, too, low-tech solutions that let you get to know one another must often precede high-tech ones. Good places to start include joint product development, sharing forecasts and actual sales data, and incentive-based joint cost-reduction efforts.

Suppose, for example, you want your suppliers to use EDI for routine transactions. The suppliers will need to make a large investment to comply. But less-expensive, emerging technologies are Internet-based. Should you move in that direction, despite your legacy investment in EDI? Should you share that decision with suppliers? What's the ROI for you and for them? Will they take a chance on an emerging technology,

such as radio-frequency identification (RFID), if you ask them to? The answer will depend not only on the state of the technology but also on the amount of trust they have in you and their relationship with you.

The temptation to pursue emerging technologies is great, but the best intentions can produce bad results. The realities of managing supply chains, not just systems within one's own company, complicate the selection and justification of technology solutions. CIOs should provide leadership in this process both within their own companies and in partner organizations. Effectiveness in this role begins with an understanding of the root causes of cost.

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