DC VELOCITY

December 17, 2010

STRATEGIC INSIGHT | SYSTEMS INTEGRATION

Eight steps to successful systems integration

Looking at a systems integration project in your DC? Here are some tips for keeping the project running smoothly and on schedule.

By Peter Bradley

Even thinking about a major systems integration project can be daunting. The process of bringing together multiple technologies—material handling equipment plus a wide array of software—demands significant time and resources... and entails a large measure of risk.

The goal is to link these disparate pieces into a seamless whole. Business success—not to mention careers—depends on successful execution. To borrow a phrase, failure is not an option.

So what does successful implementation take? We asked a number of experts who specialize in systems integration what their customers need to do in advance of and during a major project to ensure that it runs as smoothly as possible.

Make the case. Major projects require substantial capital, and that means senior management buy-in. But significant changes in operations affect many parts of the company beyond the DC—sales, marketing, operations, IT, and more—and project leaders should ask managers in all of these functions to weigh in on a proposal.

David Farmer, vice president of sales and marketing for Fortna, which describes itself as a supply chain design and implementation specialist, emphasizes the need for managers to view the project through both what he calls the business lens and the functional lens. "The business lens is about service, cost, revenue, reducing risk, and strategy," he explains. The functional lens focuses on how the overall system will work to meet the business objectives.

James Bowes, president of Peach State Integrated Technologies, adds that it's important that the project planners look out over a sufficient time horizon. "If you're going to make an investment of seven or eight figures, that needs to sustain you for seven to 10 years, so you are really pushing executives in sales, marketing, and finance to think out that long," he says. "What will your growth and your channels look like? We like to start with that end in mind and build back to what's required for the next three to five years, with an expansion plan to add to the system without compromising day-to-day business."

Plan, then plan some more. That might seem obvious, but what's often overlooked is the breadth of detail that successful project implementation requires. "The most successful projects are those in which companies invest the time in planning," says Bowes, whose company provides consulting and engineering services for manufacturing and distribution. "What we've seen is that success is 50 percent planning and 50 percent execution. You get in trouble when you try to do things too fast."

Jim Barnes, president and CEO of supply chain consulting firm EnVista, says, "First and foremost, you have to define the detailed functional and technical specifications that create the scope of the project. You find the devil in the details."

Once you've reached agreement on the scope of the project, the next step is to identify what resources will be required. "Make sure you have an adequate budget," advises Pat Sedlak of Sedlak Consulting, a firm that works with clients like adidas on major distribution center projects. What companies sometimes forget is that the budget has to cover more than just capital equipment and integration costs, he says. You also have to factor in the cost of making the transition from existing systems and "extras" like anti-fatigue mats and floor sweepers—expenses that can add up quickly. Bowes of Peach State adds that the budget should include the costs of maintenance contracts and spare parts inventories as well.

Farmer notes that the same kind of attention to detail should be extended to staffing. Early on, managers must assign specific responsibilities to individuals for the various segments of the project. "If you don't create ownership by work streams, something will fail," he insists. At the same time, all of the parts need to be coordinated. "Where you fail is when someone says, 'I'm going to put in a new material handling system' without knowing how it will impact the warehouse management system or people readiness. The overall project documentation must show where each work stream touches any other."

It might seem that a plan developed for a new facility would have a lot more moving parts than a retrofit. But Bowes says that's not always the case. Planning for a retrofit can be more difficult and complex than planning for a new building since installation must proceed in tandem with existing operations, he explains. "The tactical planning is even more important," he adds. "You simply cannot compromise a facility's ability to serve customers."

Develop a realistic schedule. "You can have problems with a schedule that is too short or too long," Sedlak warns. "If it's too short, you risk looking like idiots—you have to run and gun and put pressure on the whole organization. If it's too long, people lose focus," he says. "It is really critical to keep momentum going," adds Bowes.

So how much time does the typical systems integration project require? Sedlak says that for a new facility, a schedule normally runs about 18 months. Retrofits are somewhat quicker. Executing a major project in an existing building will take four to six months, with planning for six months prior to that, says Dean Starovasnik, practice director for distribution engineering design at Peach State.

Organize the right team—and give it authority. "The first step is setting up the proper structure," Farmer says. That includes putting together a team and developing a communications plan at the outset. "You cannot accomplish a systems integration project without the proper structure."

Bowes, like other experts, says the team must include representatives from a number of functional areas—finance, marketing, operations, IT, and distribution, among them.

But putting together the right team is only half the challenge, says Barnes. You also need the right project manager. "What makes or breaks these projects is good project management, not only by the systems integrator but on the client side," he says. The project manager must be a great leader, one who can keep the team united and focused, as well as a great communicator, he adds. "You need to be able to communicate upward both good news and bad."

To be effective, the project manager must be given enough leeway to carry out the task. But that doesn't always happen, says Barnes. "They often have the responsibility but not the authority."

Sedlak adds that the role of project manager should be treated as a full-time job. "These change programs cannot be accomplished with half-time people," he says.

Communicate constantly. That's especially important if a part of the project goes off schedule. "If you're running behind, don't put off communicating that," Farmer says. "You don't know if that impacts another part."

And communication must be timely, particularly when things go amiss. "Bad news does not get better with age," Barnes says.

Honor the schedule, but don't rush to the finish. Even the best laid plans can go awry, leading to holdups and delays. Once a schedule slips, it's tempting to compress some of the final testing and debugging and put the system to work. That's a mistake, the experts agree. "Over and over again, we see people lose time up front, but the end date does not change and what is lost is testing," Sedlak says. "You need to test, debug, and retest. Once you go live, you want to stop debugging and move on to customer service."

Barnes, too, is a firm believer in testing, particularly stress testing, which involves pushing a system to its limits. He cites one customer facility where stress and volume testing revealed significant problems with activities like scanning, labeling, and messaging that caused the warehouse management software and material handling systems to crash. "If they had gone live, they would have shut down for a week," he says. But since the issues were revealed in the testing phase, the company was able to resolve them before operations began.

Farmer emphasizes the importance of testing each segment of a system, then testing the integrated parts, and concluding with operational readiness testing. The last, he says, re-creates a day in the life of the new facility or system. "Treat that like a dress rehearsal," he says. "If you go through all that and the people are trained, it is a non-event when you turn on the switch."

Engage the workforce. This step is particularly important where an existing workforce will make the transition to a new system. "You've got to have buy-in on the floor," Sedlak says. He urges involving line supervisors early in the development process and training them to train the line workers. "That's especially true if you're doing a renovation," he says. "That's harder than bringing up a greenfield project."

Farmer maintains that preparing workers for the transition to a new system must be part of the process from the outset. "You always need a people-readiness work stream," he says. "If you don't, you will not meet the business case. You are really doing change management, and adoption of change is critical to success."

Starovasnik makes a similar point. "The physical changes—those are obvious. But you're also changing the lives of the people who work for you." He suggests engaging supervisory personnel early in the design process. "Their input can be invaluable," he says. "They understand their customers' needs. You want them to see it not as a corporate design, but as their design. It helps if you can establish a sense of ownership that can be translated to the front-line operators."

Look ahead and look back. The end of the project is just the beginning of the operation. Farmer urges companies to establish exactly how the operation will function after it's completed as part of their planning process. In addition, he says, a post-project review to identify lessons learned can prove valuable in the future.