Six Sigma in Sight
by Linda Heuring

With Six Sigma techniques, managers improve processes and quality based on hard data.

When DuPont discovered that some employees applying for long-term disability had a long wait for an answer—up to six months—the human resources team turned to a familiar process to solve the problem: Six Sigma. Similarly, HR professionals at Motorola, Dow Chemical, General Electric, Ford and others apply Six Sigma to fix, improve and sustain HR processes. “It’s the way we do work,” says Steve Constantin, global HR director for Dow.

“Six Sigma is a quality improvement process starting with the voice of the customer and using data and statistics to solve customer problems,” says Lori S. Miller, HR generalist at DuPont headquarters in Wilmington, Del. Six Sigma is organized around individual projects with finite timelines, each project beginning by forming a team to identify the customer and the customer’s needs. The team measures how those needs are being met, analyzes the variables that affect customer satisfaction, improves the process, and, finally, locks in improvements to control the process—all part of the Six Sigma methodology to define, measure, analyze, improve and control (DMAIC).

Named for the measure of variation that is key to the statistical analysis in the process—the Greek lowercase letter sigma mathematically represents standard deviation—Six Sigma was invented at Motorola in 1987. Since that time, it has evolved from a measurement scale to a far-reaching methodology that drives business improvement and “a management system for governing high-impact improvement efforts,” says Tom McCarty, director of consulting services for Motorola University.

Motorola credits Six Sigma with $16 billion in savings over the past 12 years. Ford reports more than $1 billion saved since 2000. Dow, which launched Six Sigma in 1998, attributed $1.5 billion in cumulative earnings before interest and taxes to Six Sigma by the fourth quarter of 2002.

The payoff comes, these companies agree, because Six Sigma becomes a way to work rather than a program. That cultural change is driven by company leadership.

“It has to be driven from the top. It can’t be perceived as the program of the month, or it won’t get the weight that you have to have in order to make change,” says DuPont’s Miller.

Randy Canfield, chief financial officer for the Performance Management Group of Countrywide Financial Corp. of Calabasas, Calif., has been involved in Six Sigma for 13 years. “If the CEO doesn’t own the initiative and require involvement and results in the world of process improvement, then it won’t happen,” he says. “If it’s not a high priority for him, no one else in the organization will see it.”

Getting Started
Motorola’s early success with Six Sigma spread informally to other companies in the late 1980s. Today Motorola University trains external students in Six Sigma. A number of consulting firms, often staffed by ex-Motorola, Allied Signal or General Electric employees, offer Six Sigma training and consulting.

To implement Six Sigma, most companies begin with an executive summit, what Motorola calls a “leadership jumpstart event.” Generally a two-day meeting facilitated by a consulting group or an

insider who has been trained in Six Sigma, the meeting introduces senior leaders to Six Sigma and aligns its implementation with the company's business strategy.

Rick Schleusener, master consultant with Six Sigma Academy—a Scottsdale, Ariz.-based company that has helped train many companies to adopt Six Sigma techniques—says he works with customers to see what obstacles are in the way of achieving business goals and to identify where the company will use Six Sigma to "move the needle" in those areas. After that summit, the leadership team commits to the process, often setting goals and linking those to executive compensation.

Once Dow decided to embrace Six Sigma, human resources created a curriculum design team, which developed courses specifically on Six Sigma as well as segments on conflict resolution and conflict management to better prepare the selected employees for their new roles in leading and coaching teams through projects, Constantin says.

Training is provided for all workers, starting with executives, who are labeled "champions." Steeped in the statistical process are "black belts," generally high-potential employees pulled from their regular positions and charged with completing projects. They are assisted by "green belts," employees from any level who are trained and complete a certification process.

Completing projects is an integral part of the training program, according to Debbe Yeager, deployment director for consumer-driven Six Sigma at Ford's corporate headquarters in Dearborn, Mich. It's more than a "mass of training to check the box," she says. "With adult learning, they really need to practice by doing."

Black belts return to their regular jobs after two years and continue to use the Six Sigma tools they learned. At Dow, Constantin says the goal is to have every professional employee black-belt trained, and black-belt designation has become an integral part of the business operation, including HR.

Many of Dow's key HR slots now require black-belt certification. "You either come in as a black belt or you come in and get certified as a black belt," Constantin says.

HR Applications

In addition to creating the training and leading the cultural change, human resource leaders are using Six Sigma to improve customer satisfaction and reduce costs in everyday HR functions.

Ronaldo Costa Pinto, HRD global process leader for Dow Chemical's HR resource center and an HR Six Sigma champion, says Dow's HR group surpassed its $1 million savings goal for 2003, achieving $3.2 million in financial benefit from Six Sigma.

"Applying Six Sigma to HR is really no different than applying it anywhere else in the organization," says Jackie Nelson, HR master black belt for GE Consumer Finance, Americas. "The key is, 'What are the gaps?' Once you understand what the problem is, it's like a mathematical problem you apply the right formula to solve."

One of the keys to Six Sigma is breaking down processes into manageable pieces and improving each piece to affect the overall performance. After mapping the process, Six Sigma forces a look at the internal workings of the department, sometimes flying in the face of decisions that experienced managers would have made otherwise.

It’s not that Six Sigma doesn’t value experience, Schleusener says, it’s that the data speaks for itself. “A lot of Six Sigma is just being disciplined about collecting the data, and when you do that, all of a sudden some pretty obvious answers just jump out at you,” he says.

In one such instance, a Colorado manufacturer was having trouble recruiting for a 24/7 operation where local unemployment was 2 percent, Schleusener says. As a result, the company was paying excessive overtime to experienced workers. Human resources proposed what experience had taught them would work—raise the entry-level salary to be more competitive.

“Wrong answer,” says Schleusener. The right answer was found by applying Six Sigma quality tools to the process. The internal hiring process required candidates to return week after week—apply one week, test the next, interview the next, undergo a blood test, then receive an offer. Motivated applicants found jobs elsewhere. By mapping the process and removing barriers, the company reduced hiring time from six weeks to one. Today an applicant is tested, interviewed and gets an offer, contingent on the blood test. The company saves the money it would have paid in higher salaries and overtime.

The data gives the Six Sigma project team leverage to implement its solutions, which is one reason Six Sigma requires a companywide culture change. Once a process is mapped, an experienced manager often wants to jump right in to solve the problem, according to James Roberts, executive director of human resources information technology at Seagate in Scotts Valley, Calif. Success depends on “having the discipline to stay with the process and not jump ahead,” he says.

But managers often need to experience that before they are convinced, McCarty says. “You don’t move from define to improve,” he says, referring to the steps in DMAIC. “They [managers] don’t change until they actually see it. Boy, is it something to be in the room when you hear [something] from a team that disproves whatever the underlying management conclusion was.”

Before DuPont’s project on long-term disability, Miller says the team, which included people from outlying company sites and the vendor that processed claims, clearly thought the problem was that some company facilities lagged at processing requests: The applications process ranged from 10 days to 180 days.

“As an HR person [I found] that was unique, looking at the range instead of the average,” she says. “Even though our average might be right on target, the customer really experiences the variability, so you’re trying to really improve your consistency.”

However, the data showed no statistically significant difference in the sites. It did show a difference in vendors’ case manager performance, which was solved by reassigning unrelated responsibilities that caused slowdowns. Creating a web-enabled process for applications, and then training the DuPont facilities on the process, alleviated other slowdowns. In addition, Miller said they renegotiated the contract with the vendor to add performance metrics. The project saved DuPont $326,000 in two primary areas: extended short-term disability payments and administrative fees paid to the vendor.

At Dow, providing standardized learning resources to its 50 locations around the globe meant printing, storing and shipping 15,000 participant training manuals to the right place on time each year, Costa Pinto says. His group launched a project to optimize use of alternative technologies to reduce cycle time and cost. Dow now offers the courses on compact disc, reducing delivery time by 70 percent and saving $50,000 in costs the first month of implementation.

While switching from manuals to CDs seems like a no-brainer, Dow applied Six Sigma to examine how its centralized process was working, knowing up front that new technology could be applied. Six Sigma helped quantify the potential savings and gains in efficiency and cycle time, instead of jumping to the conclusion that CDs would be cheaper and quicker to deliver. A broken or cumbersome delivery process wouldn't be fixed just by switching technology.

The fact that some solutions appear obvious is part of why Six Sigma can show great improvement and savings early on, Canfield says. "Obvious things are the bulk of the gains in the first few years," he says. "The difficulty is to keep [it] up."

Improving the hiring process was one of the first HR projects that Canfield implemented at a previous employer. "That process was manual, slow, [with] very long cycle times," he says. "The black belt collected data and looked at places where that could be automated—moved from a sequential process to multiple parallel processes." Modifying the workflow and working with suppliers to modify their processes, too, reduced cycle time from six weeks to five days, Canfield said. The company saved more than $500,000 annualized, based on reducing the cost of hiring by 27 percent per employee due to tightening up the process, automating testing, reducing supplier fees and increasing productivity by getting employees on board more quickly.

DuPont examined the relative length of assignment for expatriates, while Dow, with 127 joint ventures, used Six Sigma to improve the process of seconding employees—temporarily assigning employees to work at a joint venture. Dow's Constantin says the company had been re-inventing the process each time a joint venture was formed. "Do we wake up every morning and everyone is different? Looking at the whole seconding employee process is huge," Constantin says. "How can we do this better, not wasting people's time? People like to do real work. They don't like rework."

Improving employee benefits call centers has been a successful Six Sigma project at DuPont, Ford and GE. Nelson said GE Consumer Finance's HR team doubled employee satisfaction with HR service delivery by improving the HR Assist Center, a service that employees may call or e-mail with questions about benefits, payroll and other topics.

Setting Priorities

The list of Six Sigma projects is growing as companies create a critical mass of black belts who begin managing with a Six Sigma mind-set. There are projects on fleet management, recruitment costs, lowering average hotel room rates for employees on travel, and evaluating and managing pension programs.

With so many opportunities to apply Six Sigma, how do companies decide what projects to tackle? It all goes back to the business strategy. Dow created portfolio teams on training, learning, compensation, staffing, labor relations, executive development and other topics, and human resource team members around the world suggest projects through a computerized "idea tracker," Constantin says. DuPont uses a Lotus-based computerized tracking system it calls Six Sigma Trac, Miller says. GE has automated the process as well.

Moving from one project to the next requires a commitment of resources and, as the critical mass of black belts grows, so does a company's ability to execute projects.

Six Sigma doesn't end with improvement, however. The last element is control, something that Canfield says isn't easy.

“The challenge has been to maintain that process,” he says. “Everything’s very dynamic. Keeping that focus is the challenge for the organization once the process is completed: to maintain or at least not undo processes for reasons that may not be understood.”

While improvements are made to the processes, Six Sigma is still all about the customer. When that customer is internal, as are most of the HR customers, Six Sigma forces a change in thinking.

“It’s easy to stay in your own little world over which you have control,” says Canfield. “Push the boundary out. It’s no longer what’s easier for HR. It’s ‘What does the operating unit need from HR?’ Thinking in terms of customers and suppliers—it’s a different way of thinking.”

It’s not magic, either. It takes work to move Six Sigma through an organization. Alan Larson, who worked with Motorola in the early days of Six Sigma and who now runs CI Consulting and Training in Scottsdale, Ariz., cautions companies to pay attention to lessons learned in the 1980s, when “TQM [total quality management] activities were a failure” because “90 percent of the employees in the company were disconnected from it. What’s happening now is a lot of these companies are making the same mistake with Six Sigma.”

Larson, author of *Demystifying Six Sigma: A Company-Wide Approach to Continuous Improvement* (AMACOM, 2003), says companies are hiring trained black belts and expecting them to implement projects without a corporate culture change.

Leading and sustaining that change is the role of executives, Constantin says. “It’s the leadership that has to drive this, that has to put it in performance expectations, put it in goals. And by performance expectations, I mean if you’re sitting in a meeting and someone says, ‘I think’ and you don’t use that as an opportunity to say ‘show me the data,’ you’re not reinforcing it,” he says.

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