



Six Sigma Meets the Service Economy - Six Sigma: It's Not Just for Manufacturing

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Once used only to improve manufacturing processes, Six Sigma is stepping out. Now companies are using it for everything from reengineering environmental health services to making accounts receivable more efficient. But it doesn't work for all businesses. Here are four things to consider before unleashing Six Sigma throughout your organization.

by Jim Biolos



Six Sigma programs have traditionally been prescriptions for quality improvement in manufacturing industries. But today service firms—and service functions within almost every sector—are also using Six Sigma methods to boost performance.

Six Sigma was originally developed at Motorola in the 1980s for production processes because of the high volume and the high degree of standardization that define such activities. Its goal is to eliminate waste by achieving near-perfect results (Six Sigma-level quality means no more than 3.4 defects per million). General Electric, AlliedSignal, and other well-known manufacturers credit Six Sigma with

billions of dollars in savings.

But Six Sigma is not just for nuts and bolts anymore. Companies are using it to shape up such nonmanufacturing processes as accounts receivable, sales, and R&D. Dow Chemical, for example, estimates that the application of Six Sigma to environmental health, and safety services has saved the company \$130 million in the past two years; other initiatives are under way for corporate R&D, finance, information systems, legal, marketing, public affairs, and human resources processes. Not surprisingly, financial institutions, consumer products companies, and health care firms are all jumping on the Six Sigma bandwagon.

"But every customer is different," some bankers, lawyers, and doctors may quickly counter, warning that standardizing processes will result in inferior service.

Their concerns have some merit. Six Sigma won't work for every service process, and adjustments may be required for it to suit even those processes for which it does apply. Nevertheless, many of the lessons learned from the production lines are relevant to service processes. What's more, you'd be surprised by how many highly personalized services have standardized component processes—for example, filling out forms or obtaining follow-up information that, when streamlined, can improve the level of service that the customer experiences.

Besides, Six Sigma's off-the-shop-floor successes are too significant to ignore. The issue is no longer whether Six Sigma should be considered; it's when and how. Below, some advice about how to adapt Six Sigma methods to service processes.

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1. Determine which parts of your service processes are the best candidates. Look at each process that goes into the service you provide and identify it as either highly customized, mass-customized, or standardized.

— Jim Biolos

Highly customized processes, such as complex IT systems implementation, have a high variability of tasks and are used in many different situations. The cost of applying Six Sigma to such processes often exceeds the benefits.

Mass-customized processes are good candidates for Six Sigma campaigns if the volume of activity is high enough or if greater efficiency will result in significant cost savings, as is often the case with, say, media buys.

Standardized services, such as credit card account services or fast-food service, can yield substantial benefits from a Six Sigma campaign. Within a company, accounts payable or payroll and benefits processing services are often the most likely candidates.

Within any given industry sector, highly customized, mass-customized, and standardized processes can exist, each category presenting a different opportunity for applying Six Sigma.

Just look at Web site development. Highly customized Web site developers are likely to achieve benefits from Six Sigma in project administration: client set-up, billing and collection, and, perhaps, in project status reporting. Mass-customized Web developers can apply Six Sigma to hone their core service. Standardized services have the greatest Six Sigma potential because they use software or Web sites to take clients through the entire process. A human gets involved only to answer a question.

2. Define what you mean by a service defect and how you intend to measure it. Keep in mind the advice of the late quality guru W. Edwards Deming, whose management theories are the foundation of Six Sigma: People don't cause defects, systems do. In other words, employees typically try to do things the right way, but their actions are strongly influenced by the way the system is set up. So a defect is more likely a sign that the system needs reworking than it is an indication that an individual needs reprimanding.

That said, defining a service defect—where there are no products to return, nothing to inspect, and highly variable processes—is one of the most challenging aspects of applying Six Sigma to service-delivery systems. Until you reach agreement on what constitutes a service defect, says Edward Baker, former director of quality at Ford Motor Company and author of *Scoring a Hole in One*, your Six Sigma effort will likely disappoint.

It is application of the technique that matters.

— Edward Baker,
author of *Scoring a Hole in One*

When former General Electric Chairman Jack Welch complained that his frontline managers had "their face towards the CEO and their ass towards the customers," he was emphasizing the core value of Six Sigma: The customer defines quality. Granted employees define quality at each point in the process, but it is the customer who remains the final arbiter of the results.

Accordingly, most Six Sigma programs for services define a defect as a flaw in a process that results in a lower level of customer satisfaction or a lost customer. In short, a service defect means your processes are not delivering on your promise to customers.

When Citibank launched its Six Sigma program for banking services in 1996, it defined a defect as any customer rating below the two highest responses on a satisfaction survey. Based on that definition and survey feedback from customers, Citibank identified seven service process defects in its account opening process, its customer statement process, and five other processes.

Three measures stand out for service businesses, primarily because they are easily quantified:

- *Service defections (that is, lost customers).* Harvard Business School professor W. Earl Sasser, Jr., and Bain & Company director Frederick F. Reichheld's seminal article, "Zero Defections: Quality Comes to Services" (*Harvard Business Review*, September-October 1990), showed how defects in service quality lead to lost customers. Simply meeting customer expectations was not enough, the authors concluded—customers who aren't completely satisfied are likely to switch to another service provider. Of course, not all lost customers are the result of a service defect, but this measure serves as a good proxy for defects.
- *Customer satisfaction ratings.* In another article, "Putting the Service-Profit Chain to Work" (*Harvard Business Review*, March-April 1994), Sasser and his coauthors pioneered the notion that customer satisfaction drives loyalty and long-term profitability. When you can articulate and measure how your customers define value—and build your internal processes around delivering that value—the result is often greater customer loyalty and longer-term company profitability. In addition to counting how many customers you lose, you should also measure where your service fails to meet or exceed customer expectations.
- *Service turnaround times.* Citibank identified a global standard of service for its account opening process. Most banks opened new customer accounts within three days of receiving the customer application. Analyzing its own processes, Citibank found it took, on average, six days to open a new customer account.

Measuring defects requires skilled researchers and service representatives who can pose the right questions and glean meaningful

responses from customers. It's easy to tabulate customers' "very satisfied" and "satisfied" responses on a survey form, but it's much more difficult to get a feel for the highly variable standards they use or to fully understand the cause of their dissatisfaction. So building a certain amount of flexibility into the measurement systems makes sense, as GE learned when it used Six Sigma to streamline its corporate legal services.

How precisely can you measure the cost of the time a GE line executive spends with company attorneys on the preparation of a lawsuit? How well can you calculate what it should have been? Because of the difficulty of quantifying expected results and actual outcomes, GE realized that it couldn't rely solely on hard numbers to evaluate its Six Sigma program's success.

3. Probe relentlessly for root causes. Once you've identified and measured specific service defects, the one question you must keep asking over and over is "Why is that?" This question embodies the search for the underlying reasons for customer dissatisfaction and/or defection. Typically, there isn't one single reason; in fact, you'll often find a half-dozen or more root causes that all contribute to the service defect. Once you've identified the chief contributors, you can build systems that better serve your customers.

When an insurance company realized that its commission checks to agents were frequently inaccurate, it drilled down further to uncover several root causes for the defect. Among them: complex commission rules, a check-processing staff that wasn't knowledgeable about them, and confusing procedures for processing checks. Once these root causes had been laid bare, it was easy for the insurer to streamline rules and procedures and improve the training for its check-processing staff.

4. Remember, this is a long-term commitment. Although GE, Motorola, and others boast of training 100,000 employees in Six Sigma, Baker advises managers "not to use as their measure of success how many people have been trained or the levels of belts that have been achieved. It is application of the techniques that matters." That application often takes a while to bear fruit, and you can never put the initiative on autopilot. Subir Chowdhury, executive vice president of the American Supplier Institute (Livonia, Michigan, and author of *Design for Six Sigma*, has found that many Six Sigma efforts fail because the leadership fails to ensure that everybody "gets it" and that the initiative remains a top priority. A successful Six Sigma effort requires relentless communication and reinforcement—well beyond what most leaders assume is enough. Here are a few pointers to help ensure success over the long haul:

- Scope your projects well. Don't take on too much at once. Start with processes that are self-contained within a unit or processes that do not rely on a change in another process.
- Monitor your organizational culture. If your Six Sigma initiative is to maintain its momentum, you have to do a certain amount of "cultural planning," says George Eckes, a Colorado-based Six Sigma consultant and author of *Making Six Sigma Last*. Develop specific cultural objectives for your Six Sigma initiative—for example, ensure that management decisions are based on fact instead of anecdote. And it goes without saying that your incentive program has to be aligned with your Six Sigma objectives. "If the system of promotion and compensation encourages individual performance over collaborative work, then any knowledge gained from Six Sigma training will not reap much benefit for the firm," says Baker.

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Jim Biolos is president of Launch Publishing in Riverdale, N.Y.