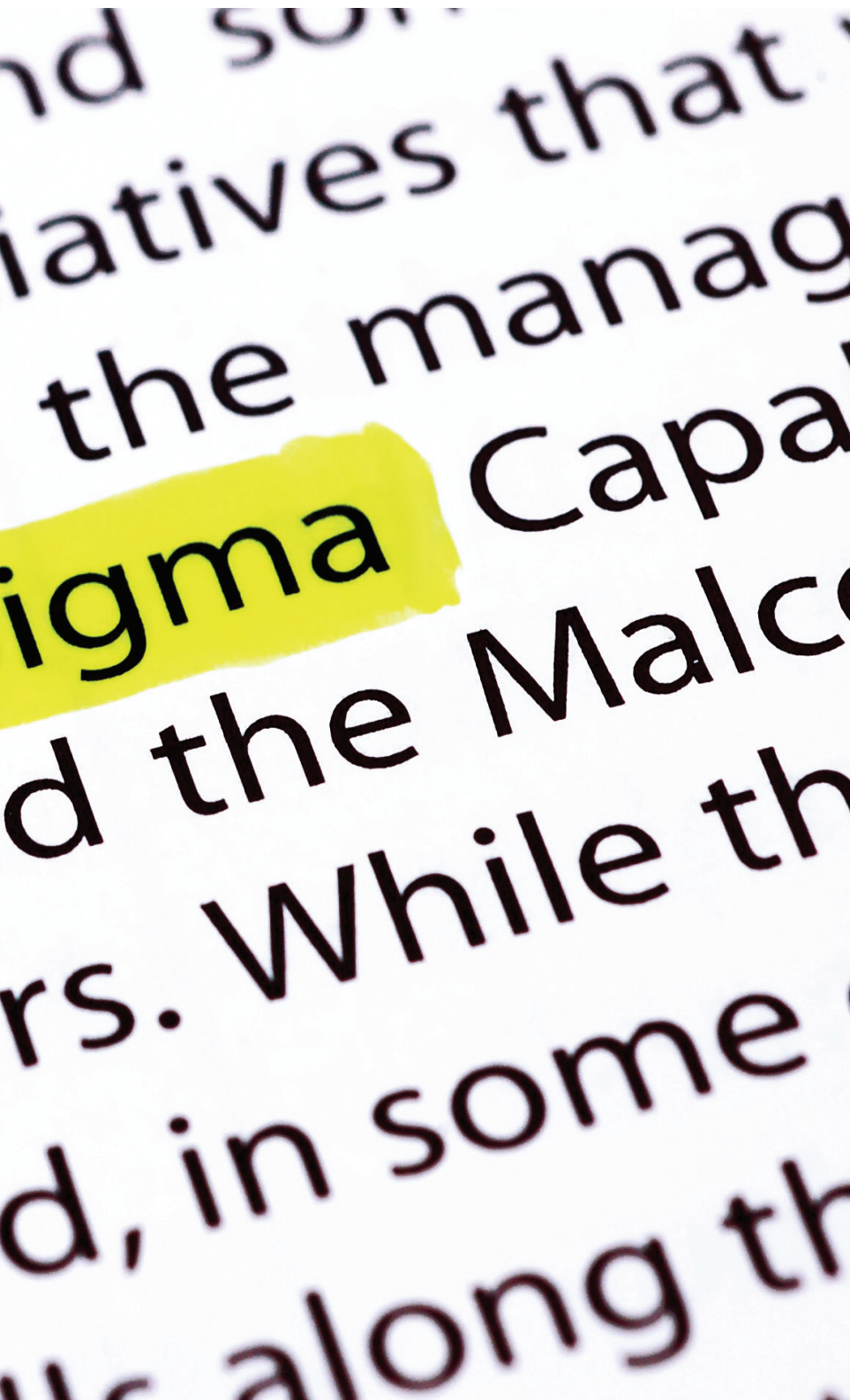


# Sixsigma skeptics

Compared to some, six sigma has had a long run as a business improvement initiative, but it seems to have as many skeptics as zealots lately. Thomas R. Cutler delves into the opinions of both



**Evan Miller, CEO** of Hertzler Systems, manufacturer of GainSeeker Software, sets the scene for the debate over the effectiveness of six sigma. “Most business initiatives have the shelf life of cottage cheese,” he says. “Six sigma has had remarkable staying power in the face of that, but there are enough detractors out there who have an axe to grind of one sort or another who stand to benefit from criticizing it.

“One type of detractor is the voice of status quo which rather cynically says ‘there is no new thing under the sun. This too shall pass and we can go back to normal life’. Then there are the people within the business improvement arena who want to distinguish themselves and proclaim that they have the next big thing... to do that they have to dethrone the aging king, six sigma.”

Tom Davenport holds the President’s Chair in Information Technology and Management at Babson College, where he also leads the Process Management and Working Knowledge Research Centers. Earlier this year Davenport posted a message on the Harvard Business Publishing website titled, *Why Six Sigma is on the Downslope*. He readily admits he is one of the six sigma skeptics.

“I was never a big fan of six sigma. As approaches to business process improvement and management go, it always had some glaring shortcomings. First, there was all the statistical mumbo-jumbo it implied—but seldom delivered on in most companies’ implementations. Second, it didn’t incorporate information technology—arguably the most powerful force available for improving (or screwing up) processes—in any way. Third, it was overly elitist. Instead of relying on six sigma expert “black belts” do the process analysis and design, every employee should

be a process improver, as I argued last week. Fourth, it really only enabled incremental improvement, not radical breakthroughs. Fifth and last, it wasn't a good fit for innovation-oriented work. Even Jack Welch now admits that it shouldn't be used everywhere in a company, but I might argue that it should only be used in product manufacturing, where the idea of reducing defects to one in six standard deviations really makes sense."

Davenport is not the only skeptic. No consultant seems to be grinding his axe more than Charles Holland, who is trying to differentiate his consulting approach from hundreds of others. Holland uses various metrics to demonstrate the initial impacts of six sigma do not prove effective over-time. "A recent study suggests that six sigma does not pan out for most companies. Through a search of publicly available information, QualPro, a consulting firm based in Knoxville, Tennessee, identified 58 companies that announced broad six sigma programs. QualPro then compared stock performance for each of these companies since their announced launch date to the S&P 500 stock index. Early adopters, such as Motorola and GE, were analyzed for their performance over the last five years. QualPro found that 91 percent of these companies had stock performances below the S&P 500 index since announcing a six sigma program. Only five of the 58 companies exceeded the index. The remaining 53 companies underperformed the index. The bottom line? The majority of six

sigma programs do not benefit a company's stock performance."

Last year in *The Chief Executive*, Michael P. Levy, John M. Jutila, and Matt Meyers offered a more balanced point of view, providing perspective on Holland's disdain for six sigma. "As a statistician, Holland knows that cherry-picking the data can make the analysis say anything one wants. We should

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all be skeptical that there is any one approach that will result in 'breakthrough improvement' for any organization in a quick and easy way. It is not the tool that matters, but the craftspeople that use the tools to achieve a specific outcome that has the greatest impact on the bottom line. The various approaches are neutral—neither good nor bad."

Miller recognizes value in many six sigma components, but puts the bottom-line impact into perspective. "Believers perceive value is there—critics don't. Six sigma is supposed to include finance people on each project to validate results. That is a huge deal. But the ROI (return-on-investment) calculation is fundamentally flawed because it promotes local optimization. Ultimately people don't trust the ROI because if you add up all the savings

in all the projects delivered, you don't see the results on the bottom line. Profitability doesn't go up by the same amount that is claimed by the projects. There are lots of ways to argue this topic, but even Jack Welch shrugged off the ROI claims of projects when speaking at a six sigma conference a couple months ago.

"I'd like to say that the role is changing because it is relying more on real-time data, but I don't think that is the case," Miller admitted. "Companies pay far too much for the data they need to drive improvements into their organization. And because of the difficulty of obtaining data, they have a very hard time sustaining the gains they achieved executing the projects."

One arena for six sigma growth is among smaller organizations which are now deriving value from the program. "Small organizations can get a lot of value from six sigma implementations, but they have to be really smart about how they execute," says Miller. "While you'd be hard pressed to find a black belt who would say that data is not important, our actions often speak louder than words. So often, projects are scoped using estimates, and black belts and green belts are left scrambling to find data to quantify the problem," he argues. Six Sigma successes always require a focus on data systems.

Many improvement projects are now combining the disciplines of lean with six sigma, but while lean is an essential component of any process improvement, a famous quotation from Peter Drucker could not be more apposite to the skeptics' arguments. "Nothing is less productive than to make

more efficient that which should not be done at all.” Six sigma may well make an organization more efficient, but it does not “instruct” whether something should be done. Lean is a discipline that addresses what should be done.

an organization where this is the norm. “We always know exactly what is happening in our organization. We have up-to-the-minute knowledge because I get warnings of trends and anomalies in real-time. At the same time, I don’t

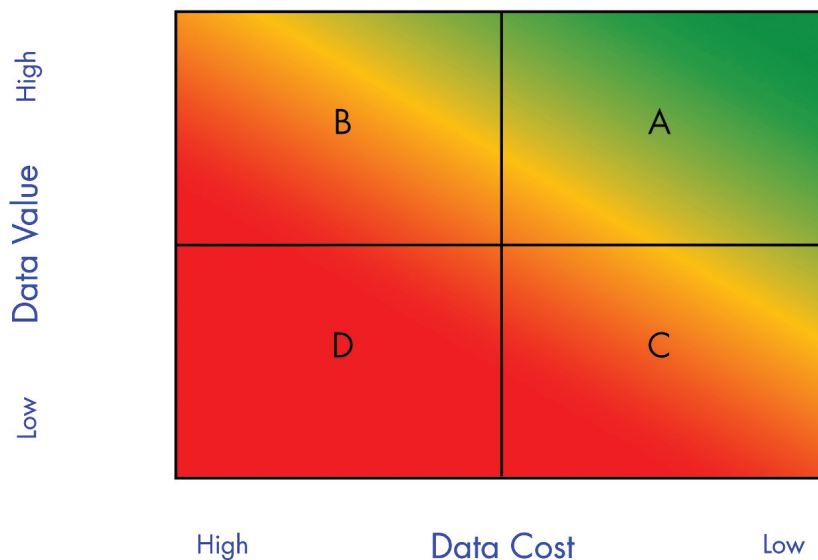
typical company hires a consulting firm to teach their first wave of black belts. They do this in a four week course spread over four months. Some also add a fifth week for lean training. The course teaches the five phases of six sigma (define, measure, analyze, improve, and control) by guiding the trainees through their first project.

These courses are usually rolled out with a great deal of fanfare and high expectations. Miller translates this to mean, “high visibility that darn well better yield huge results. Usually projects are cherry picked—low hanging fruit—and typically they have very little data. The belts in training are usually bright people with a strong work ethic who really want to succeed. So there is a lot of pressure. When faced with no data, they do what any hero would do in this situation: they strap on their armor, get out a pencil and clipboard and go out and collect data.”

Miller admits to being only slightly facetious. “I’ve seen it happen. I’ve also seen people spend days extracting and massaging data in spreadsheets and Access databases and Minitab so they have something defensible. Because these belts are miracle workers they usually find something to improve and it actually works.” There is usually very little attention paid to the ‘control’ phase and many projects do not culminate with a viable control plan where a process owner can easily monitor process performance with data. Often the belt is the only one who can collect or manage the data. They are under a lot of pressure to move on to the next project and they know the first project will not hold unless somebody is monitoring.

What is new, after thousands of six sigma deployments over the past decade or so, is that organizations are focusing on becoming data driven, paying attention to real-time data and turning that into knowledge. When they do this, six sigma becomes a tool kit to solve certain types of problems, but not the definitive methodology that runs a business. ■

## Data Cost / Value Matrix



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While one would have to travel a long way to find a business leader who would argue against the need to create a data driven organization, a dozen leaders in a room would end up with as many definitions of the ‘data driven organization’. Lacking a common understanding of this, leaders sometimes accept the status quo as something less than a true data driven organization. In six sigma or lean six sigma, the need to focus on data for business process management and continuous improvement is absolutely critical.

Miller encounters senior managers who frequently say, ‘data is not the problem. I have tons of data. But I have no knowledge.’ He suggests imagining

have to wade through a lot of noise; only the significant issues rise to the top. Summary information is easy to understand, and supporting details are available instantly. We know where to focus our precious resources to get the best results. We pay almost nothing for the data that gives us this knowledge.” The data driven organization has the right data, in the right form, and it has it right now. And the data costs nothing.

No matter what it is called or what methods are used, companies need data and must turn data into knowledge. Nobody will seriously disagree with the fundamental importance of creating a data driven business. The six sigma methodology works in practice because the