

Six Sigma: Positioning for

Competitive Advantage

By Thomas L. Sager and Scott L. Winkelman

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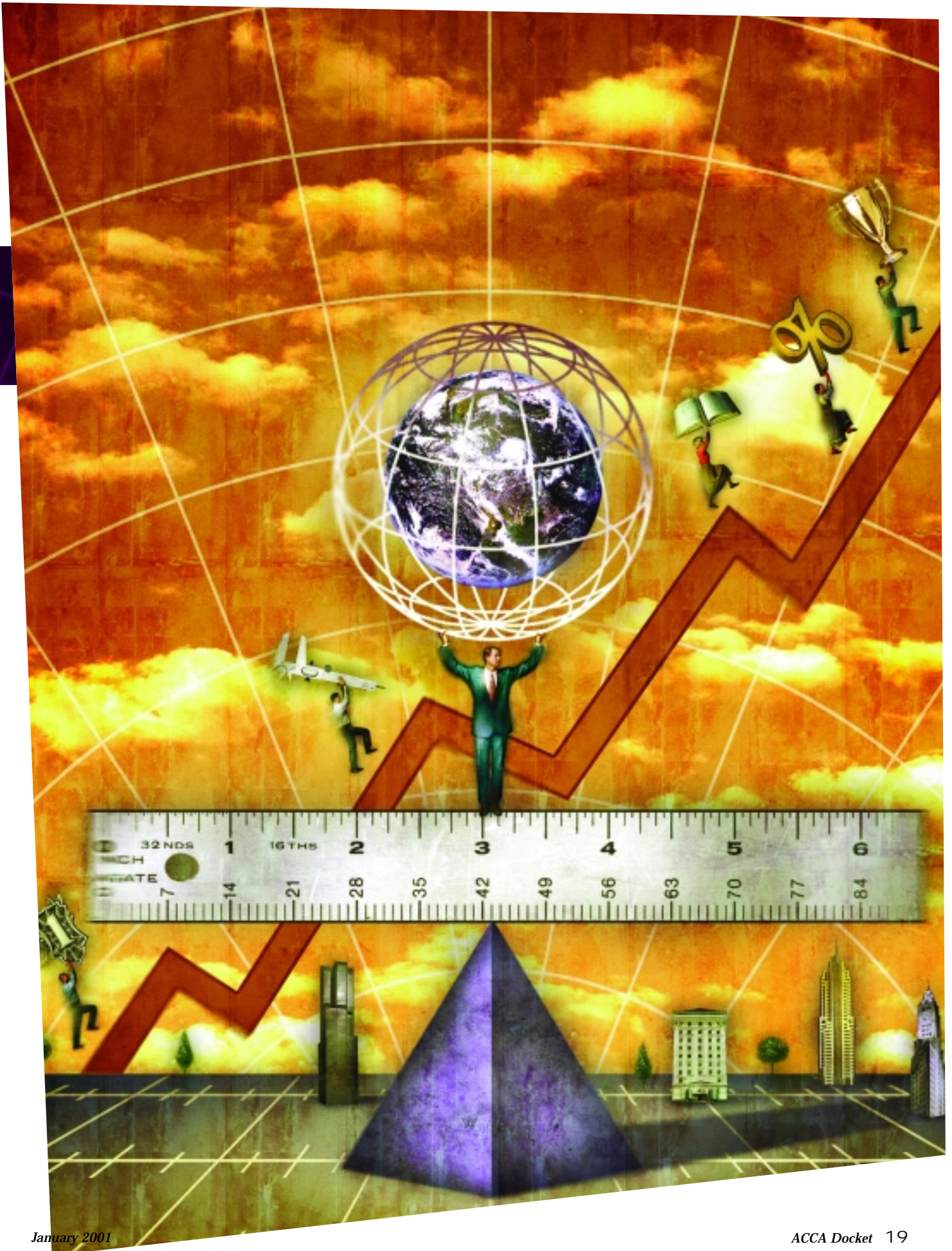
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Six Sigma has emerged as the latest and hottest quality initiative within corporate America. Pioneered and embraced by such companies as Motorola, Allied Signal, and General Electric, this statistically driven, data-intensive methodology has become a key business strategy for increasing client satisfaction, reducing costs, and improving earnings for America's Fortune 100. DuPont is a recent convert and has placed considerable talent, resources, and expertise behind this process-focused effort.

A common reaction to Six Sigma is that, whatever its value when applied to the manufacturing settings where it originated, it does not translate well to transactional functions, such as the practice of law. Our two years of experience suggests otherwise. Analytically, the statistical and organizational principles underlying Six Sigma apply naturally to a broad array of legal functions. The challenge is how to identify those functions and to translate concepts originally conceived in an engineering environment to a company's legal department. We trust that our experience at DuPont Legal demonstrates that this translation effort is time well spent.

SIX SIGMA—HUH?

First, some basics. Six Sigma is a methodology focused on improving processes. The term "six sigma" is a statistical measurement, signifying 3.4 defects per one million opportunities for failure. By way of comparison, four sigma is an average process: it equates to about 6200 defects per one million opportunities. Another example: three sigma is equivalent to one misspelled word per 15 pages of text, whereas six sigma is equivalent to one misspelled word per



300,000 pages. Thus, when we say Six Sigma, we mean best in class, a virtually defect-free process.

To define the term “defect,” we must determine a customer’s expectations. The customer is the intended beneficiary of any given process, whether it be the purchaser of the product created or the user of the service provided. If the customer’s goal from a given process is quick delivery, then slow delivery is a defect. If the customer’s goal is low cost, then high cost is a defect. Six Sigma efforts strive to maximize customer satisfaction and, hence, maximize quality by driving quality at the front end rather than playing catch-up at the back end after failure has occurred.

Six Sigma purports to be different from previous quality initiatives in its dedication to rigorous scientific proof. Six Sigma reduces all processes to a common statistical formula: a sigma value signifying x number of defects per unit. To satisfy Six Sigma rigor, process improvements must then be statistically proven to improve that sigma value. Thus, Six Sigma trainees learn to use such tools as process mapping, failure mode and effects analyses, standard deviation calculation, and related methods to ensure that the savings we think we are seeing and hope we are seeing are in fact realized.

Six Sigma, in short, represents the maximum performance a process can feasibly obtain. But Six Sigma is more than a formula. It is a culture shift. It drives an organization to drive all of its processes toward total quality and to join all its personnel in this mission.

GETTING STARTED

Six Sigma begins with training—and lots of it. A company’s Six Sigma army consists of “Champions,” “Green Belts,” and “Black Belts.” As implemented by DuPont, Champions receive one week of training; Green Belts, two weeks; and Black Belts, four weeks, all conducted by outside Six Sigma experts. The training is essentially an

intensive primer in statistics and process management with plenty of homework and both individualized and tag-team efforts at actual process improvements.

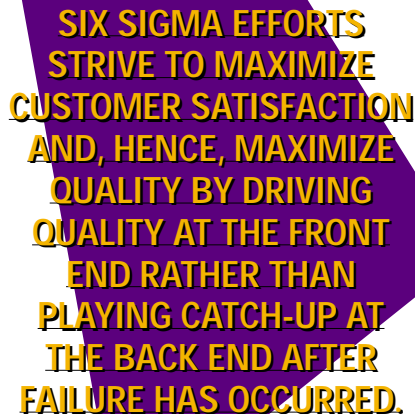
At DuPont, the Champion’s role is to quarterback a business unit’s Six Sigma effort by defining its Six Sigma goals (amount of savings, numbers to be trained, areas of application), identifying its Black Belt candidates, removing cultural, institutional, and other barriers to implementation, and creating a sense of urgency and optimism in support of the unit’s efforts. Black Belts are the foot soldiers who must complete four to six major projects per year with annual savings of about \$175,000 per project. Green Belts work with Black Belts on ad hoc projects that are typically smaller in both scope and forecasted dollar savings.

At DuPont Legal, Black Belt candidates are culled from attorneys and staff who possess some technical/scientific competence, familiarity with legal processes, a facility for bottom-line, business-like thinking, and, perhaps most important, a willingness to accept with good humor the inevitable ridicule of peers and to pursue action that threatens the legal status quo.

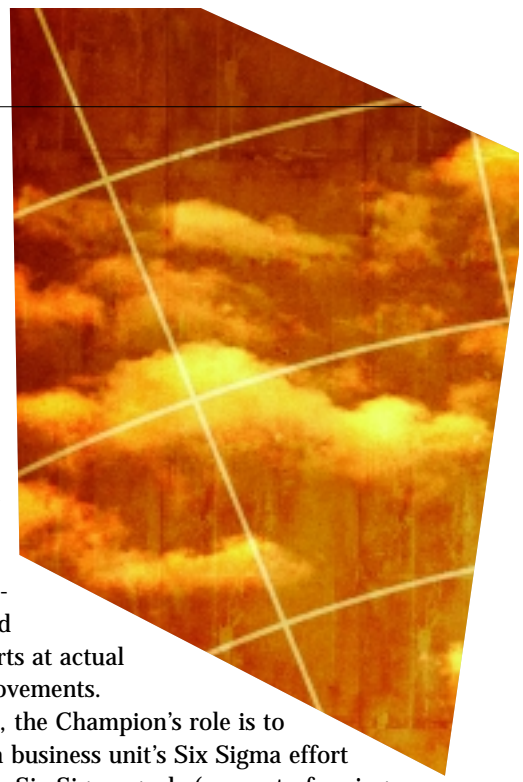
IMPLEMENTATION AT DUPONT

So how has Six Sigma played out at DuPont Legal? Quite well thus far, we think, thanks largely to three factors.

First, this initiative, like no other, has the full support of DuPont’s senior management. A high degree of focus, intensity, resource commitment,



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and accountability at the executive level has greatly facilitated the rollout of Six Sigma within DuPont Legal and elsewhere. To that end, how we perform relative to our Year 2000 Six Sigma goals in DuPont Legal will directly affect everyone's variable compensation. That's right, everyone: lawyers, legal assistants, office managers, human resources professionals, and staff. This initiative also includes financial incentives for extraordinary contributions by our law firms and suppliers.

Second, most of our personnel view Six Sigma as an opportunity to become more knowledgeable about and aligned with the company's core business values and processes. This viewpoint has proven to be a tremendous motivator for many.

Third, because of our strategic partnering relationships with DuPont's network of primary law firms and suppliers and our previous collaborations on metrics in support of the DuPont Legal Model, project identification and implementation have occurred in the spirit of continuous improvement. Everyone (both inside and outside) focuses on the right solution for the client, in this case DuPont. That focus may mean fewer resources allocated to a given task. But we all learn from the process and become more competitive in our respective marketplaces. This focus also explains, in part, why we chose two professionals from our outside network to join our Six Sigma effort and to become Black Belts, to

ensure that DuPont sees through the eyes of valued partners how to best implement these projects to ensure support from our firms in the field.

**HOW THE DEPARTMENT
STORES LITIGATION CASE
FILES, HOW THE
DEPARTMENT PURCHASES
DEPOSITION TRANSCRIPTS,
AND HOW THE
DEPARTMENT COMPILES
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CORE PRINCIPLES

Almost two years of Six Sigma experience have left us eight core principles that drive our efforts within DuPont Legal—principles that, we believe, could similarly aid any other legal organization's embrace of Six Sigma.

Identify Processes

Six Sigma is, at bottom, a methodology for measuring and improving process capability. For starters, then, the legal Black Belt must seek out legal processes, by which we mean functions characterized by repetitive, recurring steps. How the department

stores litigation case files, how the department purchases deposition transcripts, and how the department compiles company business records for production in lawsuits are all processes susceptible to Six Sigma analysis no less than how a product is made or shipped.

Start with Paper

All legal processes can generally be grouped into two categories: (1) paper-driven processes, such as how the department collects and maintains litigation documents and whether the department maintains records in paper or electronic form, and (2) people-driven processes, such as how efficiently attorneys take depositions and what role local, as opposed to national, counsel should play in pleadings preparation. Our experience suggests that it is best to focus initial Six Sigma efforts on paper processes. The reasons? First, Six Sigma philosophy frowns on variability, and paper processes often lend themselves to standardized process improvements that necessitate little tolerance for variance: thou shalt image, thou shalt retain these

categories of litigation files but not those, thou shalt use this copying vendor but not that vendor, and so on.

Also, paper processes often yield the quick victories, the low-hanging fruit that Black Belts seek out to achieve the early Six Sigma success stories that are essential to building confidence in the company's effort. Third, proposed improvements in paper processes tend to encounter less resistance than changes in how people behave, attorneys often

being of the view that how they spend their time is sacrosanct with no room for adjustment.

Accordingly, the legal Black Belt's first trip is often to the company's records custodian. He or she knows how paper processes operate in the legal department, has already compiled much of the data needed to measure process defects and improvements, and, most important, has pent-up opinions about what works and does not work in the legal function and has likely been frothing to share those opinions.

HOW DO YOU PROVE SAVINGS WITH SIX SIGMA?

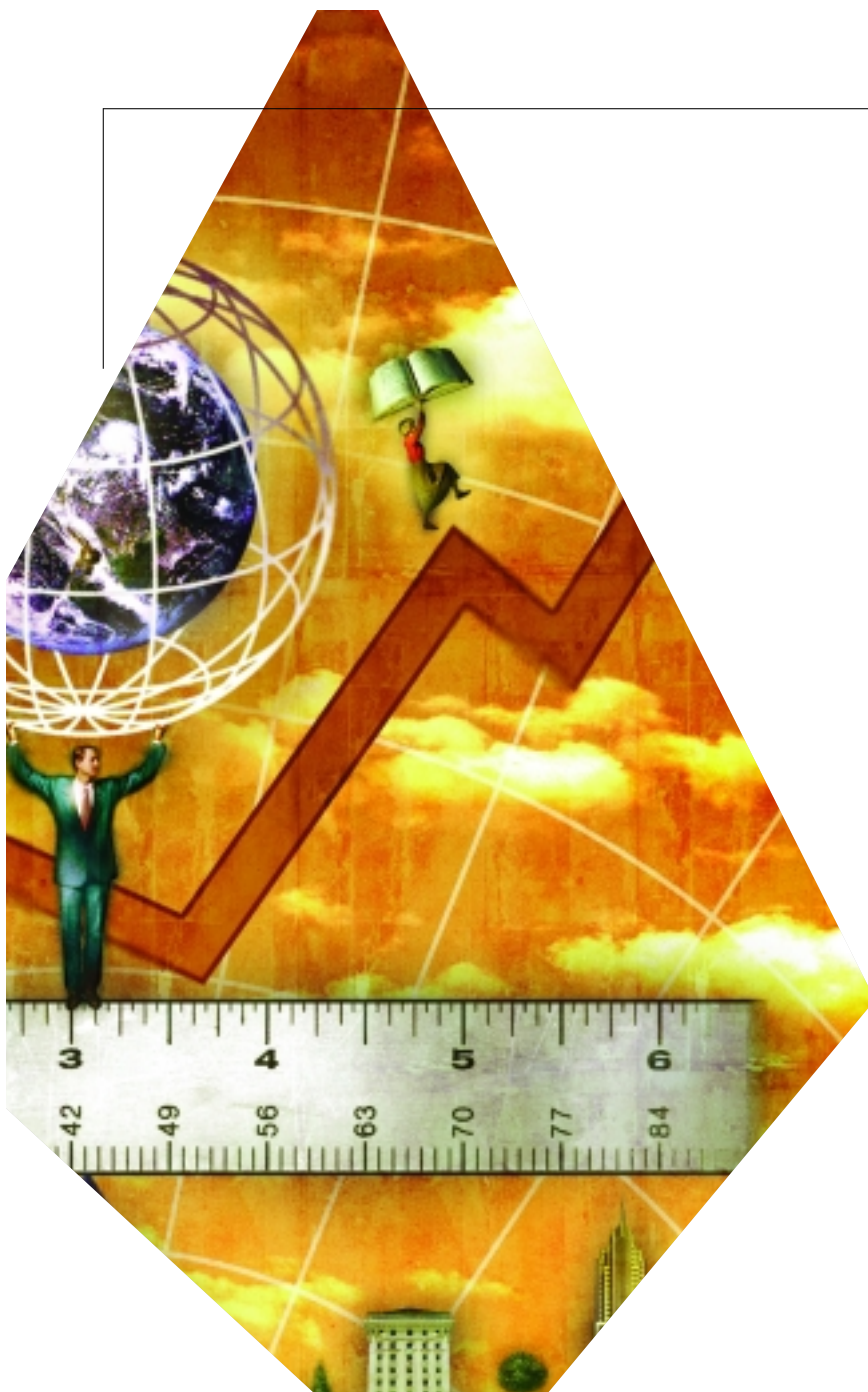
In Six Sigma, we can't assume savings: we must prove them. At DuPont Legal, the challenge is to compare the costs of a given legal process in its current state with the costs once we have applied Six Sigma analysis and have eliminated defects in the process. Basically, this process involves seven steps:

- (1) Define the defects. Through process-mapping and other tools, we first work to understand the process in question and how to improve it. For instance, a recent DuPont Legal project focused on what becomes of litigation files when the litigation ends. We concluded that the process defects were that we retained too much file material and that we retained the wrong categories of materials.
- (2) Identify the cost variables. We then identify the cost elements of the process. In the closed litigation file example, those variables are the costs associated with (a) processing (culling the file), (b) purchase of the box used for off-site storage, (c) shipping the box to the storage facility, (d) costs of storage, and (e) any real estate space saved by retaining fewer records.
- (3) Distinguish hard from soft savings. At DuPont, only hard savings count toward our dollar objectives. By hard, we mean those cost items for which DuPont actually pays out money. Thus, the manual labor associated with processing a closed litigation file is a hard cost if an outside vendor does the processing, but a soft cost if a DuPont employee does the processing, because freeing up an employee's time, while of great value, does not directly reduce DuPont's bottom line.
- (4) Identify a measurable unit. To compare the world as it is with the world post-Six Sigma, we

must choose a standard unit of measurement.

In the closed litigation file example, the unit chosen was costs per box of closed files.

- (5) Compare the old to the new. To determine the costs of the current process, we took a statistically significant sampling of litigation files, making sure that the files fairly represented the litigation docket in terms of size of case, subject matter of litigation, and so on. Using data over a five-year period, we then calculated the cost per box and total boxes stored historically to arrive at a total annual cost of closing files under the current system. We then performed the same analysis again, this time assuming that the new process was in place with its new guidelines governing which litigation files to retain. The difference between the results of the two analyses represent annual savings from this project.
- (6) Review with an expert. We are neither statisticians nor financial analysts. Our next step, therefore, is to review our data analyses with an assigned financial analyst, himself trained in Six Sigma, to reality check our calculations and methodology. At DuPont Legal, this step often results in the Black Belt project leader being directed back to the drawing board before the project is initially validated with defined projected savings.
- (7) Control. Even once the project is initially validated, the Black Belt's work is not done. With the process improvement in place, we must then analyze its implementation, continue to gather data, and return for final validation in which projected savings are in fact proven or disproven.



*From this point on...
Explore information related to this topic.*

- Founded by copioneer Mikel J. Harry to spread Six Sigma principles beyond Motorola and other early converts, the Six Sigma Academy is at www.6-sigma.com.
- The statistical nuts and bolts of Six Sigma training appear in M.J. Kiemle, S.R. Schmidt, and R.J. Burdine, *BASIC STATISTICS: TOOLS FOR CONTINUOUS IMPROVEMENT* (Air Academy Press LLC 4th ed. 1999).
- Any internet search using the key words Six Sigma will also turn up an array of training and informational offerings.

Map the Process

Of the analytical tools used in Six Sigma, we have found process mapping most pivotal to successful legal projects. The concept is simple: diagram, in flow-chart fashion, each step in the legal process under review, such as how a pleading winds its way from outside counsel to in-house counsel to client to open litigation file to closed litigation file and so on. Done correctly, the result is often multiple versions of a map: the process as we believe it exists, as it in fact exists, and as it should exist once defects are eliminated.

Mundane though it sounds, process mapping often yields dramatic results. Litigation paper, for example, typically travels through a legal function in mysterious, labyrinthine ways, often for no better reason than historical accident or unchecked bureaucracy. Defects abound, from redundant steps to wide variability to excessive paper touches. Eliminating such defects can yield substantial savings and efficiencies without any damage to company interests. Process mapping is also important for isolating both the specific process defect and the unit of measurement, whether it be cost (the dollars it takes to store a box of litigation paper), cycle time (the number of days it takes for clients to receive transcripts), or some other measurable unit.

Target Unconscious Spending

Legal departments routinely take action without internalizing or even considering the costs of that action. Attorney A orders an expedited transcript when no case urgency exists. Attorney B retains all drafts of pleadings in her litigation file without considering the storage and processing costs associated with maintaining the file. Attorney C sends a pleading to a client simultaneously by mail, email, and fax, again for no apparent reason. Attorney D notices a deposition without analyzing why the noticed witness is material to the case, offensively or defensively. In each instance, the defect is not a questionable attorney decision but a nondecision, an action driven by reflex, not reflection.

Legal processes teem with such unconscious actions, not surprising given that careful analysis of the costs and benefits of legal action is rare. Six Sigma, as a statistical methodology, can help impose rigor on legal decision-making and better discipline

legal action. Six Sigma forces us to ask why process steps are as they are. Absent good reason, those steps are eliminated. In the course of their analysis, Black Belts routinely stumble upon mindless process steps in which inefficiencies have gone unnoticed. Better yet, eliminating such inefficiencies is often pain-free: defects are eliminated, and money is saved, without any corresponding erosion in the quality of legal services.

Apply Information Technology

Six Sigma trainees are taught to focus on process inefficiencies first and solutions later. In practice, however, information technology fixes often bubble up early on in legal projects. Analysis of a litigation document repository, for example, instantly stimulates the question, "Why are we not imaging?" Purchasers of transcripts soon wonder, "Why are we ordering paper transcripts when computer disks are available, cheaper, and more readily searchable?" Likewise, legal processes that seem needlessly slow cry out for technology applications that reduce cycle time. By employing technology to improve legal processes, Black Belts not only further their Six Sigma goals, but also help motivate a company's attorneys to become more adept at using litigation technology.

Strive for Absolutes

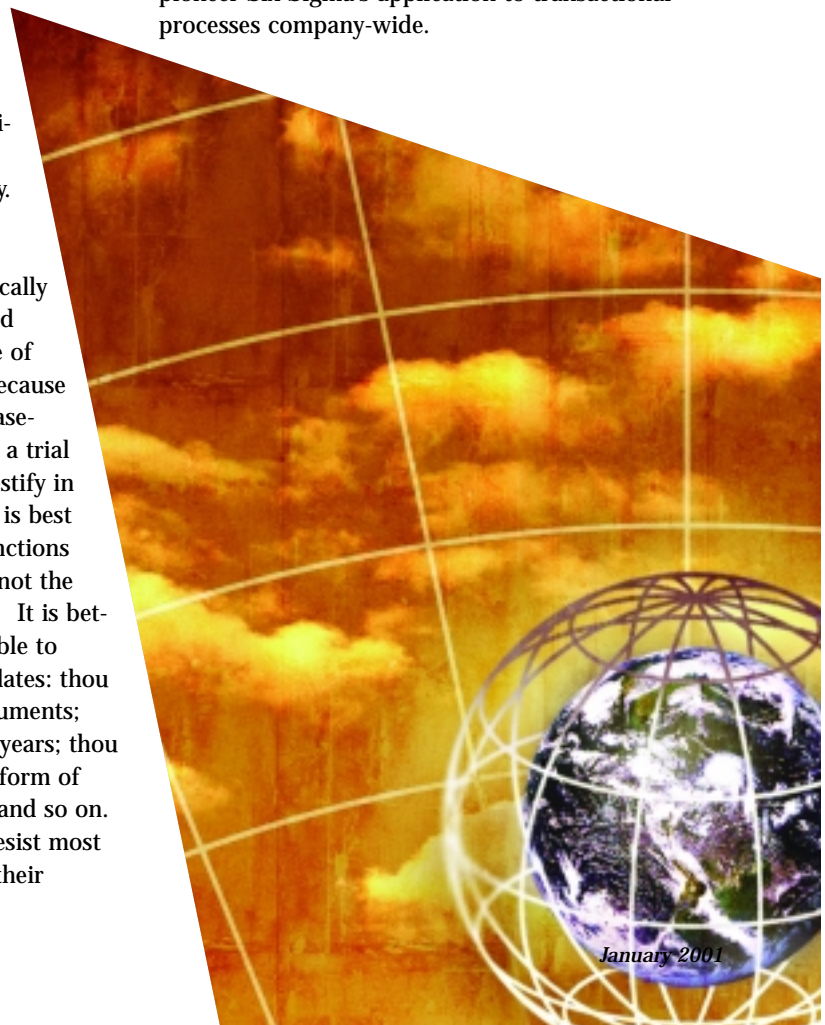
The best Six Sigma legal projects typically lend themselves to absolute, standardized guidelines. Many aspects of the practice of law are poor candidates in this regard because they necessarily involve judgment and case-specific analysis. How to cross-examine a trial witness, which expert scientist should testify in this case, and which affirmative defense is best argued on summary judgment are all functions that require attorney discretion and are not the best targets of initial Six Sigma projects. It is better to start with projects that are amenable to across-the-board, absolute process mandates: thou shalt electronically image collection documents; thou shalt retain litigation records for x years; thou shalt reimburse outside counsel for this form of deposition digest but not for that form; and so on.

Of course, attorneys will reflexively resist most any absolute mandate as a shackling of their

creative freedom and will insist on exceptions to rigid Six Sigma rules. Don't buy it. Plenty of legal processes are ministerial, have no effect on legal outcomes, and lend themselves well to corporate mandates that are binary (lights on, lights off), enforceable, measurable, and controllable.

Leverage Learnings or Don't Change the Subject

Upon completing a Six Sigma legal project, the Black Belt's strong temptation is to turn next to altogether different legal functions. Resist that temptation. Six Sigma successes can expand exponentially when a company leverages project lessons to similar functions elsewhere in the business. Thus, upon completing a statistical analysis of which litigation files a company should retain at the conclusion of a lawsuit, the next question should be whether the resulting guidelines could improve the process for retaining nonlitigation files, active case files, or even files outside the legal area. By leveraging projects in this way, the legal department can pioneer Six Sigma's application to transactional processes company-wide.



January 2001

Be a Forum for Pent-Up Grievances

Most legal departments feature their share of attorneys and staff who have long been thinking along Six Sigma lines without knowing it—identifying process defects and wondering why we practice law in the inefficient way we do—but have lacked a forum in which to voice their insights. The Six Sigma legal team should be that forum. Pent-up pet peeves are often the stuff of superb Six Sigma projects. Create a suggestion box or chat site on the company intranet. Call town meetings to invite project suggestions. In these and other ways, the legal team should energize the entire legal function around common Six Sigma goals and thereby harness existing project concepts before feeling obliged to generate projects anew. This initial invitational step should yield promising projects, lighten the creative burden facing the Six Sigma team, and promote a climate of inclusion and buy-in to the legal Six Sigma effort.

IT WORKS FOR US; HOW ABOUT YOU?

Do we commend Six Sigma to others in the corporate legal world? Yes, for some. Six Sigma principles will resonate with those who believe legal professionals should bear some responsibility

for their client's bottom-line success, with those who think that legal services, no less than other services, can improve through process analysis, with those who agree that process is not something to create anew every time a new lawsuit or commercial transaction surface, and with those driven by a commitment to continuous improvement and who recognize that the complete lawyer brings more to the table than legal acumen.

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Of course, your Six Sigma efforts will meet plenty of skepticism, from attorneys in particular. Expect such reactions as "Isn't this just the newest corporate flavor of the month?" and "Maybe this works fine in an assembly plant, but not in the practice of law." As we trust we have demonstrated here, such reactions don't move us and shouldn't move you. Fairly answering such doubts requires a mixture of balance (conceding that Six Sigma does not apply to all legal functions), proof (in the form of actual Six Sigma successes), persuasion (demonstrating analytically that the principles apply), and patience (tolerating, even humoring, those skeptics whom you can never hope to turn around). The fact remains that not everything an attorney does is impervious to process improvement. And the fact that core features of Six Sigma—attention to efficiency, elimination of process defects and redundancies, and striving for process standardization—are countercultural for lawyers is merely one more reason to embrace Six Sigma, because attorneys often are most in need for the wake-up call that Six Sigma provides.

Our experience at DuPont suggests that Six Sigma translates well to the legal function. That is not to say it translates indiscriminately to all legal processes; it does not. But with careful application, the payoff can be significant. Indeed, by getting its own Six Sigma house in order, the legal function can lead a company's effort toward efficiency and improvement and thereby round out its usual image as a drag on company resources.

We at DuPont Legal are by no means experts in the application of Six Sigma. But it takes no expert to recognize its value to the practice of law. A

