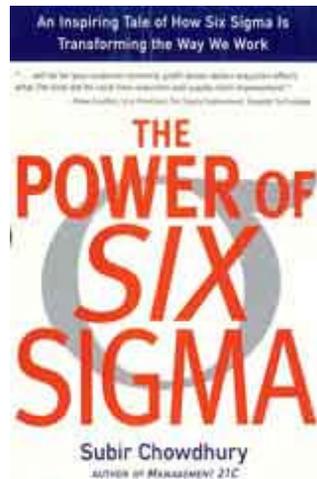


The Power of Six Sigma

An Inspiring Tale of How Six Sigma Is
Transforming the Way We Work



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The Big Idea

Six Sigma is a management philosophy that can radically change the way you treat mistakes in the workplace. It is focused on eliminating these mistakes, teaching personnel how to improve the conduct of business in the process.

Joe and Larry

One seemingly ordinary day, Joe finds himself in his office carrying a cardboard box to pack his belongings after getting laid off. Anxious and still in a state of shock and disbelief, Joe reflects on what appears to be a bleak future for him and his family. Flipping through a pile of business cards accumulated through the years, he stumbles upon the card of Larry, his former colleague when he was still starting up. They decide to catch up and talk over lunch. What transpires is a mind-opening conversation between the two men about the use of the managerial philosophy called Six Sigma and how it can dramatically improve quality and eliminate botches in the workplace to ensure greater profit.

What is Six Sigma?

Six Sigma represents a statistical measure and a management philosophy. The Greek letter Sigma, used mathematically to designate standard deviation, is the measure used to determine how good or bad the performance of a process is. In other words, it represents how many mistakes a company commits while accomplishing its tasks.

On the other hand, the Six in "Six Sigma" represents the levels of perfection each company attains. One Sigma equates to making about 700,000 defects per million opportunities, or doing things right 30% of the time. Two Sigma is better with a little over 300,000 mistakes per million opportunities. Most companies operate between Three and Four Sigma, which means they make between approximately 67,000 and 6,000 mistakes per million chances, respectively. If you're operating at 3.8 Sigma, that means you're getting it right 99% of the time.

According to Larry

Most people will say that you can't do better than operating at 3.8 Sigma or getting things done right 99% of the time. But it turns out even 1% margin of error can add up to a lot of mistakes pretty fast. Getting it right 99% of the time is the equivalent of 20,000 lost articles of mail every hour. It's 5,000 botched surgical procedures every week. It's four accidents per day at major airports.

What's so great about Six Sigma?

Six Sigma gives employees well-defined roles and a clear structure to their tasks. And it works best when everyone is involved, from the CEO to the guys in the mailroom. "In fact, Six Sigma projects are usually run by guys in the middle of the organization.

Larry says

In football, you've got two ways to win games. The first is making more spectacular plays, like long passes and big runs and great interceptions. That's the stuff that makes the highlight films. But you can also win games by making fewer mistakes: fewer penalties, fewer fumbles, fewer interceptions. It might not be as spectacular as all the big plays, but it's just as important to the bottom line. And the thing is, while you need spectacular players to make spectacular plays, *anyone* and *everyone* can focus on making fewer mistakes.

Companies are the same way. They can make more money by coming up with great inventions, hiring away some real stars, or buying other companies. These make the headlines. But good companies also focus on not making mistakes: not wasting time or materials, not making errors in production or service delivery, not getting sloppy in doing what they do best.

Two Misconceptions about Six Sigma

1. That the be-all and end-all of Six Sigma is to improve quality. In Six Sigma, improved quality is a means to an end. Not the end itself. The goal is not simply to improve quality for the sake of improving quality, but to make customers happier and add money to the bottom line. If you're improving quality but still upsetting customers or losing money, you're missing the point.
2. Most companies think improving quality costs money. Six Sigma companies turn that thinking around. They know that quality saves money, because there are fewer throw-outs, fewer warranty payouts, and fewer refunds. And doing all that, in turn, increases profit.

Everyone tries to minimize waste and eliminate mistakes.

What's so new about that?

The way Six Sigma addresses those issues is what's new. It's not just a quality initiative. It's a management philosophy that covers a lot more than just defect rates. Instead of just getting rid of the bad end products, Six Sigma tries to solve WHY the bad results are occurring. It doesn't try to manage the problem. It tries to eliminate it.

How do we identify the problems in the first place?

Since the goal of Six Sigma is to make customers happier and increase profits, managers who employ the Six Sigma philosophy identify company problems by locating problematic areas through customer feedback. From here, they work their way back to the root of the problem. Once problems are identified, Six Sigma managers choose a particular problem to solve, which becomes the "project" that he or she will work on.

Which problem do you pick?

In more vivid terms, a manager using Six Sigma chooses the most “problematic problem” of the lot. He goes for the most cost-guzzling problem that has room for the most improvement and input. Once the problem is chosen and turned as a “project,” a team composed of top-level managers, mid-level managers, and a rank-and-file support staff is chosen to work on it.

Who does What?

One of the most important elements of Six Sigma is the role each member of the team plays in solving the problem, or accomplishing the project. As any good football coach will say: Every player in the team must have a specific role, clearly defined, with consequences for not coming through and rewards for doing their particular job well. So is the case with a Six Sigma team, which is comprised of the following players:

- Black Belt – the Black Belt is the most important player in the team since he will be assigned to run the project and be its point-person. Notably, the Black Belt is a mid-level manager and not a top-ranking officer. They will deal with top management down to the guys in the mailroom to ensure the success of the project.
- Executive Champion – the primary force behind adopting the Six Sigma philosophy from day one. The Executive Champion is usually a top-ranking manager who is appointed by the CEO to oversee and support the entire project. He chooses the players who will comprise the team.
- Deployment Champion – chosen by the Executive Champion, he provides leadership and commitment and work to implement Six Sigma to the project.
- Project Champion – oversees Black Belts by breaking down corporate barriers, creating support systems and making sure money is available to get the job done.
- Master Black Belts – this role is played by outside consultants who come in to act as in-house experts on Six Sigma. They teach the core points of Six Sigma to Black Belt candidates throughout the company.
- Green Belts – provide Black Belts the support they need to get the project done. They are likewise trained in Six Sigma so everyone speaks the same language.

The Five Steps of Six Sigma**Step 1: DEFINE what the problem is**

The key in defining the problem is not simply to focus on the outcome or end product but on the process that creates the product or service. Map that process so you can easily recognize the links between each step. Sometimes that's where the problems lie – not in the teeth but in the gaps between the teeth. Further, defining problems that can be fixed is an important key in this step. Gather data on the problem to clearly define what it is and how it can be best

addressed. It is important to pick problems that are costing the company most or are giving you the most problems.

Step 2: MEASURE

Measure the *capabilities* of a given process – meaning what is possible – by measuring how many opportunities for defects a certain process or operation presents. In baseball terms, this would be equivalent to keeping track of how many chances for errors a fielder has – how many fly balls or grounders come his way. From there, the Black Belt calculates how many errors are made, which is called the frequency of defects. Measure the number of a given chance for error, as well as opportunities. Next, accomplish benchmarking by measuring the competition's fielding percentage on that problem. During the entire measurement process, define what is "critical to quality" or CTQ – factors that greatly contribute to the success of a given process. Setting up a good numerical measure of the problem, or translating the problem into numerical terms, is a key to the success of the project.

Step 3: ANALYZE

Analyze the numbers to find out how well or poorly the processes are working, compared to what's possible and what the competition is doing. The big questions will pop out in this process – Why the errors are being committed and how to fix them.

Step 4: IMPROVE

Having identified numerically the components that are problematic, implement the necessary changes that will improve these specific problems. Note that approaching the problem numerically and creating a standard base for improvement is very significant because it gives you room to measure the amount of improvement that is being accomplished.

Step 5: CONTROL

The Black Belts implement measures to keep the key variables within their new operating limits, or locked securely in place, to maintain the improved process. The Master Black Belts will monitor these variables and check to ensure that they are in order and remain that way.

Long Story Short: Define the problem, Measure where you stand, Analyze where the problem starts, Improve the situation, Control the new process to confirm that it's fixed.