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Greg Brue

Six Sigma for Managers

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Six Sigma for Managers

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Dedicated to Lauren Brue
for her unwavering support of my professional life.
This book was better because of you.
Thank you, my love!

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Foreword

Over the last few decades, it has been my distinct privilege to serve as Greg Brue's Six Sigma mentor. I have closely watched him extend and perfect his base of knowledge during the '90s, as evidenced by the increasing depth and scope of his many Black Belt projects. Owing to this solid technical foundation, others began to seek his advice and leadership.

During the early '90s, Greg focused his pursuit of Six Sigma by leveraging his leadership skills on the issues surrounding implementation and deployment over the course of his tenure at the Six Sigma Academy. Moving into the 21st century, Greg rightfully positioned himself as a true global leader on the playing field of Six Sigma. Today, he is forging new and original ideas from the solid ore mined from his past, as evidenced in this book.

Mikel J. Harry, Ph.D.
Founder and CEO
Six Sigma Academy

Preface

Six Sigma is best described as a journey—a journey for business professionals who are truly committed to improving productivity and profitability. Six Sigma isn't theoretical; it's an active, hands-on practice that gets results. In short, you don't *contemplate* Six Sigma; you *do* it. And doing it has proven to be the fast track to vastly improving the bottom line. The journey is about arming your human "assets" with problem-solving techniques, working project by project, resulting in breakthrough financial benefits and defect reduction.

The purpose of this new edition of *Manager's Guide to Six Sigma* has been to update and capture both the evolution of Six Sigma from the onset of the methodology back in 1994 with AlliedSignal/GE through the then-new revolution of the "big data business analytic." The techniques have been enhanced, and the body of knowledge is even more powerful now as it's developed in this data rich environment.

The Six Sigma story began in the 1980s at Motorola, where it was first developed and proven. In 1983, reliability engineer Bill Smith concluded that if a defect was found in a product and corrected during production, then it might be that other defects were being missed and found later by customers. In other words, process failure rates were much higher than indicated by final product tests. His point? If products were assembled completely free of defects, they probably wouldn't fail customers later. This is when Six Sigma took off and the methodology was continuously refined to not only eliminate process waste, but also turn it into growth

currency—regardless of the type of service, product, or market sector. The rest, as they say, is history.

Six Sigma statistically measures and reflects true process capability, correlating to such characteristics as defects per unit and probabilities of success or failure. Its value is in transforming cultural outlooks from complacency to accomplishment across the gamut of industries.

Most companies function at 4 sigma—tolerating 6,210 defects per one million opportunities. Operating at 6 sigma creates an almost defect-free environment, allowing only 3.4 defects per one million opportunities: products and services are nearly perfect (99.9997%). Eliminating defects eliminates waste and defects within a process and greatly enhances customer satisfaction.

Of course, this sounds good in theory, but how do you put it into practice? Well, Six Sigma is about arming your employees with the training, resources, leadership support system, and knowledge to solve problems and reach nearly defect-free production. It's also about taking a leadership journey to guide these human assets toward ever-increasing achievement. Six Sigma asks hard questions about your processes and gets the data to answer these questions. It provides solutions that fit your unique processes.

That's why I refreshed the content this book—I want to share updated Six Sigma real case stories to show how to achieve greater growth and improved customer service. Intense, results-driven, and ultimately exciting, Six Sigma eliminates wasteful variation, changes business cultures, and creates the infrastructure you need to initiate and sustain greater productivity, profitability, and customer satisfaction. In the following pages, you'll find out *what*, *why,* and *how* Six Sigma works so you can start on your own Six Sigma journey. This book is designed for business leaders who want to know the reality of Six Sigma and who are ready for major breakthroughs to improve their companies' bottom-line profits.

Some of the material used in this book comes from my book *The McGraw-Hill 36-Hour Course in Six Sigma*, which provides even more specific details about the Six Sigma DMAIC breakthrough strategy.

Chapter Highlights

In Chapters 1 and 2, you'll learn the basics; it's an introduction to Six Sigma and why you should put it into practice. You'll find an introduction to the breakthrough strategy phases of Define, Measure, Analyze, Improve, and Control. There's a review of how to define quality as well as how to measure performance. I'll show how Six Sigma makes you more competitive at every level—from streamlining internal processes to improving your external market position. You'll also learn how to engage employees as you transform cost into growth.

Building on this base, in Chapter 3 I share a practical, realistic proven strategy for implementing Six Sigma. The focus is on kicking off your Six Sigma initiative. The text provides the essential steps, tips, and planning guidelines you need to get it right. By properly readying your organization, you can lay the best foundation for a successful implementation of Six Sigma. Everyone has a role to play, from executives to line workers.

Chapters 4 through 8 are the heart of the Six Sigma methodology and go into great detail on the breakthrough strategy of DMAIC: Define is Chapter 4, Measure is Chapter 5, Analyze is Chapter 6, Improve is Chapter 7, and finally, Control is Chapter 8. Each chapter goes through goals and objectives for each phase and the tools and techniques, with updated case studies to show the practical application as you take the journey through the Six Sigma strategy to solving business problems.

Chapter 9 then takes you into how to sustain Six Sigma and shows you how to keep the momentum going to realize an ever-increasing return on investment. This is where knowledge transfer happens: as you and your teams transform theory into practice and become experts in the methodology, you'll share the strategies that create an extraordinary ripple effect throughout the organization.

As you delve into Chapter 10, you'll have the opportunity to review real case studies and final reports about Six Sigma projects. The object of this chapter is to further demonstrate that Six Sigma is not a passing quality fad, but rather, a real-world business tool that returns positive financial results across the business spectrum. The evidence of its success is found in the proven results achieved by the companies profiled here.

I want to also thank all the thousands of Green Belts, Black Belts, and MBBs alongside the executives and champions supporting the unending journey of Six Sigma. This book could not have been as real without the true stories of these real people doing the heavy lifting during journey. Thank you!

Special Features

Titles in the Briefcase Books series are designed to give you practical information written in a friendly, person-to-person style. The chapters deal with tactical issues and include lots of examples. They also feature numerous sidebars that give you different types of specific information. Here's a description of the sidebars you'll find in this book.

The Key Term sidebars provide definitions of terms and concepts as they're introduced. Because Six Sigma has a lot of new terminology, you will find many of these sidebars.

The Smart Managing sidebars do just what their name suggests: give you tips to intelligently apply the strategies and tactics described in this book to help you implement the principles that we explain.

Tricks of the Trade sidebars give you insider how-to hints that astute managers use to execute the techniques described in this book.

It's always useful to have examples that show how the principles in the book are applied. The For Example sidebars provide illustrations of how managers can use the these ideas.

Caution sidebars warn you where things could go wrong when undertaking a Six Sigma initiative.

How can you make sure you won't make a mistake when you're trying to implement the techniques the book describes? You can't, but the Mistake Proofing sidebars give you practical advice on how to minimize the risk of this happening.

The Tools sidebars provide specific directions for implementing the techniques described in the book in a systematic fashion.

Introduction to Six Sigma

> Knowledge is power.
>
> —Francis Bacon (1561–1626)

The assertion that knowledge is power is as true now as it was four centuries ago. In any industry, in any organization, for any process, when you don't know what you don't know, it's going to cost you. For too many organizations, the costs (often hidden) of defects and waste in the way they operate are huge. Occasional errors in processes may not seem like such a big deal. But when you consider how many errors may be lurking in processes throughout an organization, the monetary impact can be staggering.

Six Sigma generates knowledge. It can reveal errors, defects, and wastes in the operations of any organization. The power of knowledge increases, often dramatically, through action taken with Six Sigma to reduce errors, defects, and waste.

What Is Six Sigma?

Six Sigma is a methodology for using a set of techniques and tools to improve product or service quality by identifying and reducing or eliminating the causes of defects or errors and minimizing variability in processes. People within the organization are trained to apply the techniques and tools in improvement projects, in which teams set measura-


KEY TERM

Six Sigma Methodology for using a set of techniques and tools to improve product or service quality by identifying and reducing or eliminating the causes of defects or errors and minimizing variability in processes.

ble goals (e.g., reduce process cycle time by 7%, increase sales by 5%, reduce costs by 8%) and follow a specific sequence of steps.

The name of this methodology, Six Sigma, comes from the statistical concept of sigma. We discuss sigma in the next section.

Evolution of the Six Sigma Fundamentals

Whatever you read about Six Sigma will probably state that it was developed in 1986 by Motorola and that it's a set of techniques and tools. Both of these statements are true, but not the whole truth. Actually, Six Sigma is a methodology based on thinking that can be traced back for several millennia and on applying fundamentals with which most people are at least somewhat familiar.

We all know about Socrates (469/470–399 BCE), the Greek philosopher considered the father of Western philosophy. Among other things, Socrates is known for an approach to learning that consists of asking a series of questions to not only elicit answers but, more generally, to encourage thinking—the Socratic method. The Socratic method asks questions and follows up the answers with more questions, eventually leading to an answer that withstands further questioning.

The Socratic method led to the development of the scientific method, which begins with a *hypothesis* (a proposed explanation for an observable occurrence such as a problem) and which is tested for accuracy. The *Oxford English Dictionary* defines the *scientific method* as "a method or procedure that has characterized natural science since the 17th century, consisting in systematic observation, measurement, and experiment, and the formulation, testing, and


KEY TERM

Hypothesis Proposed explanation for an observable occurrence, such as a problem. A hypothesis is nothing more than a suggested answer to a question, an answer that leads to eliciting ideas and collecting data to prove or disprove the hypothesis.

Test Your Hypotheses with Data

In Six Sigma, a hypothesis must always be tested with data. There is no "I believe" or "I think" or "I feel." What we believe, what we think, and how we feel may help us form a hypothesis, but only facts matter in proving or disproving it. In applying Six Sigma, we do not deviate from this path. We can arrive at a hypothesis in any way we choose, but we must prove or disprove that hypothesis with data and statistical analysis.

modification of hypotheses."

The scientific method of identifying causes of problems and using critical thinking to solve them is fundamental to Six Sigma. In fact, Six Sigma could be described as a methodology that uses the scientific method with statistical tools.

Further evolution of Six Sigma can be linked to Carl Friedrich Gauss (1777–1855), considered one of the most influential mathematicians in history. Gauss introduced the concept of the normal curve, or normal distribution, also known as the Gaussian distribution or Gaussian curve. If we do something again and again, we can expect the results to start to show a pattern, to form what is known as a normal distribution or, because of its shape, a bell curve (Figure 1-1). The normal distribution underlies the statistical assumptions of the Six Sigma model. It is the basis for analytical or inferential statistics, which are used to establish the capability of a process.

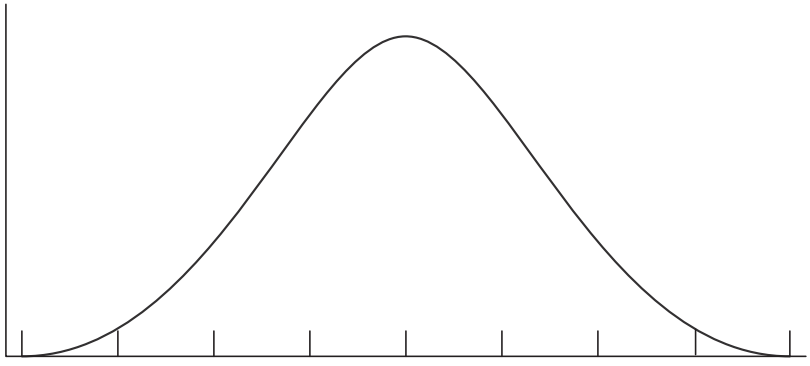


Figure 1-1. Simple normal distribution curve

What Is Sigma?

As mentioned earlier, the Six Sigma methodology was named for the statistical concept of sigma. *Sigma* (represented by the Greek letter σ) is a term that represents *standard deviation*, which is a measure of variation in a product or a process. *Variation*—the deviation from the expected or the ideal—is what causes defects. Standard deviation helps us understand how far a process deviates from a reference of perfection. (We get into calculating the standard deviation in later chapters.) The lower the standard deviation, the closer the data points tend to be to the mean.

KEY TERMS

Sigma Statistical term that represents standard deviation, a measure of variation in a product or a process. In Six Sigma, sigma is used to measure a process in terms of the number of defects and the number of opportunities for defects. This ratio of defects to opportunities is generally expressed as defects per million opportunities (DPMO).

Defect Measurable characteristic of the process or its output outside of acceptable customer limits, i.e., not conforming to specifications.

Opportunity Point in a value-added process where a defect could result or where the product or service fails to meet customer requirements, specifications, or expectations.

Use of DPMO and sigma level enables us to compare processes throughout an organization, whatever the nature of the processes and however the terms *defect* and *opportunity* are defined specifically for each of those processes.

A sigma represents 691,462.5 defects per million opportunities, which translates to a percentage of nondefective outputs of 30.854%. That's obviously really poor performance. If we have processes functioning at a three sigma level, this means we're allowing 66,807.2 defects per million opportunities, or delivering 93.319% nondefective outputs. That's much better, but we're still wasting money and disappointing our customers 6.681% of the time. Figure 1-2 shows different levels of sigma.

Six Sigma as the Goal

When Motorola developed the Six Sigma methodology in 1986, it set a goal of six sigma for its manufacturing operations. If a process is operat-

1 sigma = 691,462 DPMO
2 sigma = 308,538 DPMO
3 sigma = 66,807 DPMO
4 sigma = 6,210 DPMO
5 sigma = 233 DPMO
6 sigma = 3.4 DPMO

Figure 1-2. Sigma levels and probabilities of defects per million opportunities (DPMO)

ing at the level of six sigma, we can expect 99.99966% of its outputs to be free of defects. In other words, it's working nearly perfectly. Six sigma is a statistical concept that measures a process in terms of defects. Achieving a performance level of six sigma would mean that your processes are delivering only 3.4 defects per million opportunities (DPMO).

Cost of Quality at Motorola

Here's a blunt reality: In 1987, Motorola discovered that poor quality accounted for approximately 25% of its annual inventory carrying costs. Since this expense added no value, it was like taking $250 million and burning it … annually. Another fact that came out of the Motorola discovery period was that the highest-quality producer was the lowest-cost producer. The synergy is that simply by improving quality, you can decrease costs and reduce cycle time—and increase customer satisfaction.

How well are your processes operating? Are they at three sigma? At four sigma?

Most organizations in the U.S. are operating at quality levels between three and four sigma. That means they could be losing up to 25 percent of their total revenue due to processes that deliver too many defects—defects that take time and effort to repair and that create unhappy cus-

Deviate an Inch, Lose a Thousand Miles

As this Chinese proverb states, even a small deviation in a process can have big consequences. Deviation, variation, defect, waste—whatever you call it, the result is the same: It costs you! Whatever your business—manufacturing, distribution, or other services—any variation and the resulting defects are hurting your bottom line.

tomers. Is that good enough? The answer is simple: No, not when you could be doing a lot better.

The central idea of Six Sigma management is that if you can measure the defects in a process, you can systematically find ways to eliminate them, to approach a quality level of zero defects.

Sigma Level: An Example

Let's take an example, an all-too-familiar scenario: lost luggage at the airport. Many of us have experienced the frustration of watching the baggage carousel slowly revolve while waiting for luggage that never arrives. The system is far from perfect. But just how far, in sigma measurement terms?

In general terms, the baggage handling capability of many airlines is performing at around the three sigma level. That means there are about 66,000 "defects" for every one million luggage transactions, which equates to approximately a 94% probability that you'll get your luggage.

Is that good enough? Certainly not for the customers whose bags are among the defects. The defects increase airline costs because employees must deal with misplaced luggage and unhappy passengers. And those defects can result in the loss of future business.

If the airline can achieve a six sigma level of performance in luggage handling, it clearly pays off in terms of lower costs and happy passengers, who are then more likely to fly with that airline again.

It may seem like three sigma is good enough. After all, if there are 66,807 defects per million opportunities, that means 933,193 opportunities without a defect—93.319% perfection.

But if the airline is taking comfort in those statistics, it's losing money and losing customers. Consider this three-sigma level from another perspective.

For customers, three sigma represents highly unsatisfactory performance. The airline is not meeting its most basic expectation—that its customers' luggage will be put on the same flight and travel with the customers to the same destination. So the airline is likely to be losing many of those frustrated customers.

Three-sigma performance also costs money. Variations—time, waste, and errors—abound in the baggage-handling process: misrouting the

baggage, reporting the problem, processing the report, searching, retrieving, and finally delivering the lost luggage. When you translate the 6% probability gap of missing luggage into monetary terms, the hard cost of this defect can be much higher than 6% of the overall cost of handling luggage—perhaps several million dollars per year. If the baggage-routing process were improved, the margin for error would be reduced and the allocation of resources, both human and monetary, could be more profitably used.

How many customers can your business afford to lose? How much money can your company afford to lose due to mistakes? Why accept it as normal to be running processes at only three sigma or four sigma when, by changing the way you manage your processes, you could get a lot closer to six sigma and all the resulting benefits?

Why not just four sigma? That's the level of quality achieved by many major companies—99.379%. Because that goal is not high enough. It's been calculated that if 99% were good enough, we would be accepting the following:

- Every hour the postal service would lose 20,000 pieces of mail.
- Every day our drinking water would be unsafe for almost 15 minutes.
- Every week there would be 5,000 surgical operations that go wrong in some way.
- Every month we would be without electricity for almost seven hours.

So, is 99% good enough?

Six Sigma uncovers the layers of process variables—in data terms—that you must understand and control to eliminate defects and wasteful costs. It's a management approach that aims to achieve the apex of quality by measuring, analyzing, improving, and controlling processes to root out defects and boost bottom-line results.

Essentials of the Six Sigma Methodology

The Six Sigma methodology uses statistical tools to identify the *vital few factors,* the factors that matter most for improving process quality and generating bottom-line results. These tools are presented and discussed during phases in the Six Sigma process in which they are first used.

There are two forms of Six Sigma: DMAIC and DMADV. DMAIC, the

focus of *Six Sigma for Managers*, consists of these five phases:

- **Define.** Determine the project goals and customer (internal and external) deliverables.
- **Measure.** Identify one or more product or service characteristics, map the process, evaluate measurement systems, and estimate baseline capability (the current performance of the process).
- **Analyze.** Evaluate and reduce the variables through graphical analysis and hypothesis testing and identify the vital few factors for process improvement.
- **Improve.** Discover variable relationships among the vital few factors, establish operating tolerances, and validate measurements.
- **Control.** Determine the ability to control the vital few factors and implement process control systems.

We devote a chapter to each of these phases. (Six Sigma DMADV, also known as Design for Six Sigma, consists of these five phases: Define, Measure, Analyze, Design, and Verify.)

Six Sigma focuses on defects and variations. It begins by identifying the critical-to-quality (CTQ) elements of a process—the attributes most important to the customer. It analyzes the capability of the process and aims to stabilize it by reducing or eliminating variations.

The Six Sigma methodology and tools will enable you to identify, correct, and control the CTQ elements and reduce the cost of poor quality (COPQ). (I refer to the COPQ as the "cost of doing it wrong.") Your projects will reveal hidden costs and pinpoint ways to eliminate those costs.

Ask One Simple Question

Try this experiment the next time you're in a meeting and people are discussing a problem. Listen for words such as "I think that this is the real problem" or "I believe this is the solution to the problem." Ask this one simple question: "If that's what you think, what data (facts and evidence) do you have to support your opinion?"

Simply put, Six Sigma management is about tying quality improvement *directly* to financial results. The Six Sigma goal is to link internal processes and systems management to end-consumer requirements.

Six Sigma is a scientific approach to management, driven entirely by data. The Six

Sigma methodology eliminates the use of opinion—"I think," "I feel," "I believe." Six Sigma drives the organization to a scientific means of decision making by basing everything on measurable data.

Anecdotal Evidence

"Anecdotal evidence" is the ultimate oxymoron and an evil source of variation. It's a personal opinion with a sample size of one. Take anecdotal evidence with less than a grain of baby powder.

Focus on Engaging People and Changing Processes

Six Sigma relies on old-fashioned hard work coupled with factual data and a disciplined problem-solving approach. It affects every aspect and level of an organization—from line workers to middle managers to CEOs—to transform your *people* as well as your *processes*.

It's Not Only the People

Managers tend to focus only on the people in their organization. When something goes right or something goes wrong, they look for a person to congratulate or to blame. The fact is that work gets done through processes executed by people; both successes and problems are usually the result of what lots of people do, not only one person. If you don't pay careful attention to both people and processes, improvement won't happen.

As the first step in that transformation, the Six Sigma mindset considers you and your people as *resources* (assets), rather than as *costs* (liabilities). That's right—you are as much an asset as any piece of capital equipment and you represent an investment with extraordinary potential for return. Shifting the perspective from people as liabilities to people as assets (or investments) is fundamental to Six Sigma.

Once you're thinking in terms of human assets, it's equally important to realize the underlying monetary value of rooting out wasted materials and steps in processes, as this is key to unlocking the hidden return on your investment in people. And that's also another aspect of the Six Sigma approach to managing.

By changing the way you look at processes, by understanding the vital few factors that cause waste, error, and rework, you can improve the

See Employees as Assets

An easy way to understand the concept of human assets is to calculate their individual return on investment (ROI). For example, if an employee costs the business $50,000 a year and his or her activity produces revenue of $100,000, the employee has covered the costs and raised an additional 100%—the profit or ROI. So, the annual ROI for that employee is 100%. By calculating employee ROI, you can focus on making the most of them as assets invested in your business.

Elevator Talk

A CEO of a major corporation once asked me, "What's the 30-second elevator speech that explains Six Sigma?" My answer went like this: "Six Sigma is a problem-solving technology that uses your human assets, data, measurements, and statistics to identify the vital few factors to decrease waste and defects while increasing customer satisfaction, profit, and shareholder value."

ability of your processes to deliver higher quality to your customers and to lower costs. Once you know which vital few factors to focus on, you can make improvements that deliver dramatic results.

It's actually simple—once you put your mind to it. By putting your people to work at solving process problems with proven statistical tools, you eliminate not only errors, but also inaccurate speculation about why processes don't work. Instead of opinion, you arm yourself and your people with quantifiable information—based on facts, not hunches and guesswork. When you know the facts, you're in a position to fix the problems permanently and gain long-term benefits. In other words, you've leveraged the power of knowledge to transform performance.

Not Only Statistics, but Cultural Changes

Because it uses statistical terminology, Six Sigma is frequently perceived as a statistics and measurement program. This is not the case. The Six Sigma approach to management uses statistics solely as tools to interpret and clarify data. You focus on tool selection and the use and interpretation of data to drive decisions. Six Sigma practitioners also use computers and statistical software to take advantage of knowledge and

to speed the improvement process. The goal is to create Six Sigma companies—companies whose systems and processes are as perfect as possible, functioning at their best performance level.

To achieve that level of quality requires not only statistics, but changes in the organization's culture—the beliefs, expectations, ways of operating, and behaviors that characterize the interactions of the organization's people. Culture evolves over a long time and it often reflects the beliefs and behaviors of top management. Because Six Sigma affects the way things are done, its successful implementation requires a cultural change that may be profound.

The Six Sigma approach is rigorous, requiring from the highest levels of management a deep commitment that permeates the entire organization. It requires a tolerance for endlessly questioning the validity of sacred company beliefs and the traditional ways "things are done around here." It also requires a sense of urgency—an understanding that to solve the problems that undermine profitability and customer satisfaction, you must involve your key people in actively implementing the Six Sigma methodology.


KEY TERM

Culture Beliefs, expectations, ways of operating, and behaviors that characterize the interactions of people in any organization. It's "how things are done around here" in an organization.

The Six Sigma approach to management involves cultural change. Essential to this cultural change are key players known as "champions" and "black belts," who act as agents to facilitate that change. Champions and black belts play vital roles in the success of Six Sigma management, as we outline in Chapter 3.

Six Sigma is exciting. But it requires tenacity, mental toughness, and above all, an unwavering dedication to the pursuit of perfection in every aspect of business operations. Once you've fully embraced that, the possibilities are virtually limitless in what you can achieve.

Six Sigma Is *Not* . . .

Six Sigma is not another quality program. That's an important point to emphasize.

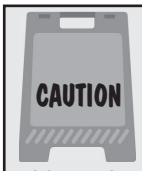
Businesses exist for one purpose—to profitably serve customers. So it follows that any problem-solving initiative should do the same. Six Sigma uses your resources to fix identifiable, chronic problems. It proves its value by connecting outcomes to your bottom line.

Quality programs lay a valuable foundation in creating a quality mindset. But ask yourself if any of the quality programs you've experienced have generated specific financial results like Six Sigma. It's possible you'll answer no, since a primary criterion for selecting Six Sigma projects is to return money to your balance sheet as the result of *full-time* efforts by dedicated resources.

Six Sigma is not theory. It's a practice of discovering the vital few processes that matter most. It defines, measures, analyzes, improves, and controls these vital processes to tie quality improvement directly to bottom-line results.

Six Sigma is an active, involved effort that puts practical tools to work to root out defects at all levels of your organization. It's not a theoretical exercise: You don't *think* about Six Sigma—you *do* it.

Since the success of Six Sigma is directly linked to monetary outcomes, it generates real-world results. It uses the most readily available resources in an organization—its human assets. That means that positive, tangible results consistently show up wherever and whenever people are engaged in implementing Six Sigma techniques.



Six Sigma Is Not Another Quality Program

Quality programs are valuable in that they can create a quality perspective and culture. But Six Sigma fixes identifiable, chronic problems that directly impact your bottom line. Six Sigma projects are selected to reduce or eliminate waste, which translates into real money.

Six Sigma is not a training program. Of course, practitioners are trained in the methodology to ensure correct implementations and results. But Six Sigma is a business strategy that fosters a cultural shift at all levels. Permeating departments, functional groups, and all levels of management, Six Sigma changes the outlook and practices of everyone in the organization.

From workers on assembly lines and bookkeepers in accounting to

Six Sigma Myths

There are many myths and misunderstandings about Six Sigma, notably these:

- It works only in manufacturing settings.
- It doesn't include customer requirements.
- It's repackaged TQM.
- It uses difficult-to-understand statistics.
- It's an accounting game without real savings.
- It's just training.
- It's a "magic pill" with little effort.

Just remember that Six Sigma actively links people, processes, and outcomes in a rigorous yet adaptable way to produce tangible results, whatever the industry, business, product, or service.

operations managers and human resource personnel, training exists only to instill the method, facilitate transformation, and get financial results by attacking chronic defects with proven statistical tools.

Six Sigma works because it focuses fanatical attention on the details that matter. The Six Sigma method has worked through several recessions and still holds true to adding breakthrough value. Former GE CEO Jack Welch, who achieved great success with Six Sigma, made the case for Six Sigma succinctly:

> The big myth is that Six Sigma is about quality control and statistics. It is that—but it is a helluva lot more. Ultimately, it drives leadership to be better by providing tools to think through tough issues. At Six Sigma's core is an idea that can turn a company inside out, focusing the organization outward on the customer.... It finally gives us a route to get to the control function, the hardest thing to do in a corporation.

Manager's Checklist for Chapter 1

- ☑ Six sigma is the optimum level of quality for organizations, averaging 3.4 defects per million opportunities. It can be applied to any transaction in any business.
- ☑ The Six Sigma methodology and tools will help your organization reduce variations, defects, and waste from all business processes and generate significant financial results.

- ☑ Six Sigma is a disciplined, five-phase problem-solving methodology for improving processes and effecting culture change by establishing a system for spreading knowledge throughout the organization.
- ☑ Six Sigma starts with top leadership at the CEO level and it continues with top-level support.