

Chapter 1

Six Sigma Acceptance

The Ignored Element in Implementation

Within the last several years, Six Sigma has exploded onto the American scene as a prominent method of improving the effectiveness and efficiency of businesses. Companies like General Electric, AlliedSignal, and others have saved literally billions of dollars that have resulted in increased profitability and increased stock price. For example, since its adoption of Six Sigma in 1995, General Electric has saved more than 3 billion dollars. Jack Welch has said, "Six Sigma is the most important initiative we have ever undertaken."

Six Sigma is a management philosophy that attempts to improve customer satisfaction to near perfection. A Six Sigma company has little more than three bad customer experiences for every million opportunities. This level of near-perfect performance is a significant distance from where most organizations are today. It is estimated that most companies are at the two to three sigma performance level, which means that for every million customer contacts there are 308,000 to 66,800 defects.

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Six Sigma moves an organization toward managing with facts and data. It is a management method that has customer satisfaction as its overriding philosophy. It achieves greater levels of customer satisfaction through focus and management of the processes of that organization.

To achieve greater customer satisfaction, there are three critical success factors: the strategic component, the tactical component, and the cultural component.

The strategy of Six Sigma is exclusively the domain of executive management. For Six Sigma to be more than just a cost savings initiative, management must create the infrastructure for improvement to occur. In my first Six Sigma book, *The Six Sigma Revolution: How General Electric and Others Turned Process Into Profits* (Wiley, 2000), I described in detail how management must create and manage the key processes of their organization so that Six Sigma activities move the strategic business objectives of the organization. I covered in detail how project teams apply the second major component of Six Sigma—the tactical component—so that processes begin to become more effective and efficient.

Making Six Sigma Last: Managing the Balance Between Cultural and Technical Change exclusively addresses the third and most important component of the critical success factors—the cultural component. It is the component most overlooked by organizations. It is the component that, if mastered by an organization, can drive quicker and more dramatic improvement in sigma performance. It is the component that most organizations ignore as they become preoccupied with the tactics of improvement. It is also the component that many Six Sigma consultants are unaware even exists.

■ $Q \times A = E$

This simple but powerful formula explains why an organization needs as much focus on the third component of the Six Sigma initiative as they do on the first two. The *Q*, *Quality*, in this formula refers to the strategic and tactical elements of the Six Sigma initiative. The *A* stands for the cultural *acceptance* of the strategic and tactical elements of Six Sigma. The *E* refers to the extent that a company achieves Six Sigma as a technical measure of performance.

The formula is multiplicative. Think of assigning a number between 1 and 10 for how well an organization is doing the *Q* of Six Sigma. Pick up any book on Six Sigma and the focus will be on *Q*. Even mature organizations would rate their performance as an 8 or 9. Then assign a number for how well the company is culturally accepting the *Q*. In most cases, asking this question provokes puzzled looks. Often management has done little, if anything, to manage the acceptance of *Q* in their organization. If this number is a 1 or 2, multiplying the two higher numbers gives 18.

$$9 \times 2 = 18$$

Is 18 a good number? If a perfect score is 100, what would you consider a passing score? I get the same answer that I do when I ask my two boys, Joe and Temo, what they would consider a passing score. To get an A in school, they would expect a 90 or better, a B would be scored as an 80 or better, a C would mean that the two numbers multiplied together would register a 70, and a mere passing grade would mean that the multiplied numbers would have to register at least a 60.

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In this light, a score of 18 means the organization is not seeing the kinds of results typically associated with a Six Sigma initiative. Since in recent years management has invested significant costs and personal reputations on Six Sigma, there is usually a call to “re-double” the Six Sigma effort. What does this re-doubling of efforts look like? Obviously, the effort must be focused on cultural acceptance. In reality, if you don’t know what elements increase cultural acceptance (and most companies don’t), the re-doubling of efforts is spent on the Q. There is probably not much juice left in that fruit. So, after significant effort and investment, the organization moves from a 9 to a 9.5. Evaluating the re-doubling of efforts using our $Q \times A$ formula results in:

$$9.5 \times 2 = 19$$

The organization may start to question whether Six Sigma is for them. The company may give up the effort and return to their old ineffective and inefficient management methods.

Making Six Sigma Last is devoted to the many concepts, tools, and techniques that drive the second number in the $Q \times A = E$ formula. These concepts and tools are simple and direct. Compared to the statistical rigor and complexity of some of the Q tools, they may even seem elementary. However, a good consulting friend, Pam Dennis of Destra Consulting, said it best when she stated, “Implementing the hard tools of Six Sigma is easy, implementing the easy tools is hard.”

What Pam meant is that the appearance of Six Sigma Q tools like a designed experiment or capability analysis may appear hard but after some teaching, they are relatively easy to implement. Those tools are applied to a process. Getting an organization to culturally accept change sounds easy, but

deals first and foremost with human nature. Dealing with the human psyche is a complex endeavor. Thus, while the tools I will teach you in this book may seem relatively easy, you will not be applying them to processes, but to people. As such, the level of complexity rises exponentially.

The good news is that many organizations have gone before you. This aspect of Six Sigma has been taught successfully in statistical training of organizations worldwide for more than 20 years. Before I was a Six Sigma consultant, I trained and practiced as a psychologist. I am still licensed as a psychologist so I bring both training and experience to the $Q \times A = E$ equation.

Learning the tools in *Making Six Sigma Last* will be relatively easy. Becoming good at using them will take practice. There are six major areas to improve your A or acceptance number in the $Q \times A = E$ equation. This book will show you how to:

1. Create the need for Six Sigma.
2. Shape a vision of Six Sigma so that employees understand the desired results and new behaviors of a Six Sigma organization.
3. Mobilize commitment to Six Sigma and overcome resistance.
4. Change your systems and structures to support the new Six Sigma culture.
5. Measure Six Sigma cultural acceptance.
6. Develop Six Sigma leadership.

When teaching Six Sigma cultural leadership, I start by dividing my class into two groups. In the first group, I ask

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each individual to think of some change they have either played a part in, or been subjected to, that was highly successful. It can be a personal change or some professional change. I tell them not to talk about the specifics of the change but to keep their change in mind and then answer the following question:

What were the factors that contributed to making the change you are thinking of successful?

I tell the second group to think of either a personal or professional change they were a part of that was an unmitigated failure. This group usually has an easier time coming up with their personal examples. I then tell them to answer the following question:

What were the factors that contributed to making the change you are thinking of unsuccessful?

Over the course of the next 20 minutes of the exercise, the two groups brainstorm the factors without revealing their specific change. The two groups develop a list that is usually 10 to 12 items long. Then I tell them to narrow their list down to the most vital items that contributed to either the success or failure of the change they were thinking about. In the many years since I have started doing this exercise, I have collected data on the results. First, since they had the more difficult assignment, I ask the team that was thinking of the successful change for the criteria that made their change successful. Below is listed the most frequently provided reasons why a change was successful and the approximate percentage of time it has been mentioned as a reason why the change was successful:

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Strong leadership	78%
The need for the change was communicated	59%
Clear and motivating goals and objectives	56%
Resistance was managed	44%
The culture was modified to encourage change	38%

It's now time for the second team to report on the criteria that contributed to unsuccessful change. The data for the group for unsuccessful change looks as follows:

Lack of clear goals	87%
The need for the change was never understood	79%
No or poor leadership	46%
Those against the change were allowed to win	40%
No incentives to change	32%

When comparing the two lists, it is obvious that patterns exist. In the multitude of times I have done this exercise, it is truly amazing to see over and over again the same reasons why a change has been successful and the same opposite set of reasons why it failed.

It became obvious that these patterns of simple but effective criteria could be built into a model. When that model is applied to Six Sigma, it could dramatically increase the potential for an organization to embrace not only Six Sigma as a management method that would result in everyone in the company practicing never-ending improvement, but actually be able to achieve Six Sigma as a technical measure of performance.

From my days as a psychologist, I was painfully aware that change, even positive change, is resisted. After several

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years as an in-patient therapist, I spent time in out-patient work doing a combination of individual, family, and marriage therapy. Doing marriage therapy as a single person was quite an education. It probably contributed to me waiting to walk down the aisle until I was in my thirties.

In the case of marriage therapy, my patience was always tested. More times than not, one spouse would want to work on the marriage while the other was oblivious to the need to change the conditions of the marriage. In case after case, one party was being abused either verbally, emotionally, physically, or in some rare cases all three. What amazed me was that in these cases the victim did not see change—divorce—as freedom from abuse. Instead, they saw change—divorce—as loss.

For the longest time I struggled with how someone in such a miserable existence could not see the opportunities that awaited a life free from pain. I then remembered the work of D. Chris Anderson at my beloved alma mater, the University of Notre Dame. While a junior in South Bend, I took several classes from who was to be my favorite professor. Dr. Anderson taught a variety of courses and did research on experimental psychology. His research showed change to be an exceedingly difficult choice for rats and for people.

I remember a study he did where a rat traversed the path of a gridded runway and we would measure the rat's travel time down the grid.

During certain periods of hunger, the rat would expediently traverse the grid. Then Dr. Anderson electrified the grid and exposed the hungry rat to the sight of his food at the end of the runway. As the rat entered the gridded runway, a shock, not such a significant voltage to cause death but to cause projectile defecation, ensued. Of course, this was not a

pleasant experience for the rat (nor for those of us who had to clean up after the rat).

What Dr. Anderson then showed was a learning experience that has stayed with me for years. Trial after trial, the gridded runway leading to the rat's food was opened. Time and again, the rat just stayed in his cage. Even when the rat began to experience more advanced signs of malnutrition, and he would have his cage opened so he could visualize the food he so desperately needed for survival, he remained almost physically paralyzed.

Years later doing marriage counseling I thought of Dr. Anderson's experiments and the relationship those experiments had to real life. I came across an exercise I use to this day that highlights the same concepts I learned as a junior at Notre Dame.

I ask everyone in my seminar to stand and find a partner. If there are an odd number of seminar participants in the room I ask the odd person out to act as my assistant in the exercise. The rest of the participants are asked to face their partner. I tell each pair of participants to study their partner carefully for 30 seconds.

I then instruct each pair of individuals to turn back to back. I then slowly give them the instructions for Round 1 of the change exercise. I tell them to change three things about their physical appearance. I further tell them there is but one rule: they cannot create a hostile work environment.

During the following minute, the participants almost universally start doing the same thing, removing clothing. First, a pair of shoes are removed. Then a tie is loosened, or a belt removed, and a woman's earrings are taken off.

Nervous laughter pervades the room. In the event of an odd number of people in the room, my assistant is wandering about, gathering comments to be used in the debriefing

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of the exercise. I then instruct the participants to turn back to back again. I tell them that Round 2 is ready to begin. I instruct everyone to change five *additional* things about their physical appearance without changing any of the first three things.

No sooner have I provided these instructions when I and my assistant start hearing comments like:

- ▶ “I don’t have any more clothes to take off.”
- ▶ “I can’t change anything more about myself.”
- ▶ “This is ridiculous.”

As they utter these comments, they continue to make changes. Again, I state the one rule of not creating a hostile work environment. In the years I have done this exercise, despite the nervous laughter and resistant comments, everyone has followed the instructions. After a minute, the participants are told to turn around and find the five additional things their partner changed.

After a few minutes, I then ask them to turn around for Round 3. As you might expect, the protest is both uniform and vocal. When I ask if the participants want to go a third round, the response is a virtually uniform “No.”

As soon as I tell the participants to take a seat so we can talk about the exercise they quickly “re-dress.” I ask them their reaction to the exercise. The comments are, for the most part, negative. I then ask them to collect data on the two rounds that they completed. By the end of the second round, they would have changed eight things about themselves. I instruct them to put their eight changes into three categories: changes they made where they *took something off*, changes that would be considered *neutral* (e.g., taking a watch from one hand and

putting it on the other hand), and finally, *additions* they made to change their appearance.

In the years I have done this exercise, the statistics are:

Subtractions	70%
Neutral	25%
Additions	5%

Whether due to some previous negative experience with change or other explanations we will cover in later chapters, virtually everyone associates change with *loss* or *subtraction*. In one case during the debrief a participant said change is worse than seeing it as loss or subtraction, saying it felt more like division.

During the debriefing I note that there is even a biological explanation for the resistance to change. I ask my class to think of an individual in need of a heart transplant because their heart is diseased. What is the first thing that happens when a new, thriving heart is placed in the chest cavity of someone who would otherwise die? The heart is rejected, clear evidence of the biological resistance to change.

■ HOW THIS BOOK IS ORGANIZED

In the coming chapters we will address specific elements to soften the natural or acquired resistance to change. We will address how to systematically improve the chances of your Six Sigma effort being successful. For most organizations, Six Sigma introduces far more substantial change than most people realize at the onset of Six Sigma implementation.

Using the data from the exercise I use in my class about successful and unsuccessful change initiatives, it becomes apparent what is needed to drive successful change in general

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and successful Six Sigma specifically. While the journey toward successful change is not a linear path, the data shown earlier in the chapter does reveal key elements for successful change. Some of these elements come before others. In the following chapters, we address some of the elements that will drive improvement in the A part of the $Q \times A = E$ equation.

For successful change, the *need for change was communicated*. In the unsuccessful change group, the *need for change was never understood*. Thus, our second chapter addresses establishing the need for Six Sigma. In addition to learning how to create the need for Six Sigma, you will learn how to separate real from perceived reasons for Six Sigma to be the management approach adopted by your organization.

Forty percent of the unsuccessful group responded that *Those Against the Change Were Allowed to Win*. In the successful group, *Resistance Was Managed*. In Chapter 3, we address perhaps the most important of the elements that will move the A in the $Q \times A$ equation. Virtually any change initiative meets with resistance. This resistance will be compounded in a Six Sigma initiative where the amount of initial work can be daunting. Chapter 3 introduces you to how to conduct analysis on how significant the resistance to your Six Sigma initiative is, how to diagnose the four major types of resistance to a Six Sigma initiative, and the major strategies to combat them.

In Chapter 4, we address how to create Six Sigma goals that are not only clear, but more importantly, motivate those affected in an organization. We learn that Six Sigma cannot simply be a set of business or process improvement objectives. In addition to these Q metrics, there must also be a set of different behaviors in a Six Sigma organization. These behaviors must be motivating if Six Sigma is to be more than a fad in your organization.

I have had the good fortune to work for a variety of organizations that have solid reputations for Six Sigma implementation. During the 1980s I worked with several Motorola suppliers in their efforts to implement Six Sigma. In the 1990s I worked with over 20 of GE Capital's 30 businesses in their efforts at implementing Six Sigma. Several of these businesses did an outstanding job of implementation. In each case of successful Six Sigma implementation, the culture of the business embraced Six Sigma. In large measure, the management changed how business was conducted. At General Electric they call this changing the "systems and structures" of the business. Those that did well with changing the way they hired and developed their employees with Six Sigma in mind went a long way toward insurance that Six Sigma was successful. In addition, how management recognizes and rewards Six Sigma behaviors is crucial to its ultimate success. In Chapter 5, we devote our efforts to explaining in detail how to change the culture to make Six Sigma work.

In Chapter 5, you will also learn some of the training secrets of Eckes and Associates, Inc. Rated the most effective consulting group by GE Capital in 1998, we share our teaching secrets so that your Six Sigma training can be as effective as ours.

Six Sigma is, at its core, a management system based on decision making by fact and data. Measurement is a key to successful Six Sigma Q. The main theme of Chapter 6 is the measurement of the A of a Six Sigma initiative. In this chapter we provide suggestions on how to measure the cultural acceptance of Six Sigma, an ongoing measure that is as important as any Q measure. Once these cultural measures are collected, what to do with the measures to improve the Six Sigma culture will be discussed. We review five case studies

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of Six Sigma initiatives and discuss why they were either successful or unsuccessful.

In both the successful and unsuccessful change groups, we heard repeatedly that strong leadership (or the lack of it) was the critical element in the success of the change. No truer words were spoken. I have seen motivated individuals within an organization that desperately desired Six Sigma fail without the proper leadership. As Six Sigma is a management philosophy, how to gauge how well the business executive is leading Six Sigma is addressed in Chapter 7. How to improve Six Sigma leadership is covered and the chapter ends with selected profiles of successful Six Sigma leaders. This chapter specifically addresses what an executive must do to lead an effective and efficient Six Sigma effort.

In Chapter 8, we look at pitfalls to avoid in improving the $Q \times A$ equation.

■ SUMMARY

The management philosophy known as Six Sigma has three critical success factors: the strategic components, the tactics, and most important, the cultural component.

This book's focus is on the cultural component. Often overlooked in the Six Sigma implementation plan is the fact that Six Sigma is a major change for most organizations and how they manage. Studies have shown that change is associated with loss and humans resist loss. When Six Sigma initiatives are implemented, resistance is common. Thus, a successful Six Sigma organization will spend as much time on creating acceptance to Six Sigma as they do on the technical elements.

While Six Sigma has many statistics and equations associated with it, perhaps the most important equation for

a Six Sigma culture is $Q \times A = E$. This equation states that the *quality* of the technical elements of the change multiplied by *acceptance* of the technical elements of change equals the excellence of the results. In this context, *Q* refers to how well an organization implements the strategies and tactics of Six Sigma. These elements are covered in detail in my first book, *The Six Sigma Revolution*. The *A* or acceptance of Six Sigma is the total focus of this book, *Making Six Sigma Last*.

KEY LEARNINGS

- Six Sigma is a proven management philosophy that can dramatically improve productivity by improving the effectiveness and efficiency of any organization.
- There are three components of Six Sigma: the strategic, the tactical, and the cultural.
- Most books on Six Sigma cover only the tactical aspects. *The Six Sigma Revolution* covered both the strategic and the tactical.
- This book, *Making Six Sigma Last*, exclusively addresses the last of the three concepts, the cultural acceptance of Six Sigma within your organization.
- When we refer to the cultural acceptance of Six Sigma, we will use the formula, $Q \times A = E$ which stands for the quality of your technical and strategic Six Sigma activities multiplied by the cultural acceptance equals the excellence of your Six Sigma results.
- The universal reaction to the word change is loss or subtraction.

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- ▶ In study after study of both successful and unsuccessful Six Sigma implementation several universal truths abound. First, the need for Six Sigma must be established.
- ▶ Second, that resistance to Six Sigma is normal and to be expected.
- ▶ Third, a vision of Six Sigma that incorporates the results, mindsets, and new behaviors of a Six Sigma organization must be established.
- ▶ Fourth, the systems and structures of an organization must be changed to reflect the new Six Sigma culture. Namely, how an organization hires with Six Sigma in mind, how an organization develops its employees with Six Sigma in mind, how it rewards and recognizes Six Sigma performance, and how its management communicates Six Sigma are vital to the cultural acceptance of Six Sigma.
- ▶ Fifth, to be successful with Six Sigma, measurement of the acceptance of Six Sigma is as important as measurement of the processes and defects of the organization.
- ▶ Sixth, Six Sigma will fail in any organization if leadership supporting Six Sigma is absent.