The prevailing wisdom in the Six Sigma community suggests you must first get top management commitment before you can initiate or succeed at Six Sigma. But, what if everything we’ve been led to believe about this first commandment of quality is not only wrong but can also be dangerous?

While most will point to the success of General Electric (GE) or other big companies that started with top management commitment, they often overlook the other 50% of companies that started with commitment and failed, according to Quality Digest magazine’s annual survey. This puts the implementation of Six Sigma at a 1-σ failure rate.

Who benefits the most from making top leadership commitment the first step? Big consulting firms that need top level commitment to open up the corporate checkbook.

While Six Sigma gains its power from investigating and resolving linear cause-effects, culture change is a decidedly nonlinear phenomenon. This leads us to investigate existing research into how cultures change and recent explorations into the science of networks and complexity.

This investigation reveals surprising, counterintuitive insights into how to succeed with Six Sigma. Furthermore, these findings can be applied to any culture change, not just Six Sigma.

What’s Wrong With Six Sigma?

First, there’s nothing wrong with the methods or
tools. They work just fine on the class of problems they are designed to solve—linear ones. The real problem is implementation. According to Quality Digest’s annual survey, more than 50% of companies are abandoning Six Sigma after about three years. These are companies that followed the prescriptions of top management commitment and extensive training of Black Belts (BBs) and Green Belts.

But the statistic is not surprising considering 30% of companies changed their CEOs at least once in the 2000 to 2001 period and 58% in the 1998 to 2001 four-year period, according to DBM, an international outplacement firm headquartered in Philadelphia.

Florida Power and Light, for example, won the Deming Prize for Quality in 1989. A change in CEOs in the mid-’90s, however, killed its quality program. And now another change in leadership is bringing it back. Can you really afford to hitch your quality wagon to one leadership team?

The Stalinist Limit

The science of complexity considers corporate cultures to be complex adaptive systems. By complex, scientists mean nonlinear, wildly interconnected agents following simple rules from which amazingly complex higher level organizations emerge.

From complexity comes the butterfly effect—a butterfly flapping its wings in Brazil can raise a tornado in Texas. This idea that small changes can have huge effects and huge changes can have no effect at all flies in the face of Six Sigma’s focus on linear cause and effects.

One such finding involves the power of top leadership commitment. “The folk model of organization as top-down and centralized is out of date,” says Sidney Winter, a Wharton business school economist who served as the chief economist at the General Accounting Office.

This top-down, commitment-equals-success approach invokes what complexity scientists call the “Stalinist limit”—the corporate commitment to Six Sigma is either on or off. Six Sigma can flip on and off again like a firefly on a hot summer night. If you’ve been in a company that had top commitment to quality and then flipped when a new CEO arrived or the business climate changed, you’ve experienced this shift.

The other finding is the Stalinist limit encourages the system to settle for less than optimal results and freeze into this unchanging state. The wall-to-wall, floor-to-ceiling approach to Six Sigma undertaken by most organizations flies in the face of Joseph M. Juran’s “vital few, trivial many” rule. Too many teams end up working on projects of little or no value, which reduces the value of the teams that really find the hidden gold mines in the business.

When we point to GE and former CEO Jack Welch as a Six Sigma success, we often fail to consider Welch’s 20-year effort to create a culture of change at GE. He had already cleared the fields and tilled the soil to make it ready for the seed of Six Sigma.

I, on the other hand, worked for a phone company that had a longstanding commitment to staying the same. Five years of effort to implement Six Sigma’s predecessor, total quality management (TQM), using the conventional wisdom—top management commitment, tons of training and lots of teams—failed miserably.

“In a Stalinist regime, the system may typically settle determinedly onto a very poor compromise
solution and then remain there rigidly,” says Stuart Kauffman. In essence, by getting the top leader to commit, you limit your results and reduce your chances of success to 50-50 right out of the starting gate. And it’s a very fragile success. The entire system is less stable than if you allow Six Sigma to emerge from the corporate quilt, one patch at a time.

The Power of Patches

Kauffman says, “Breaking an organization into patches where each patch attempts to optimize for its own selfish benefit can lead, as if by an invisible hand, to the welfare of the whole organization.” The basic idea is simple: Divide the organization into a quilt of patches that don’t overlap. The joint effect achieves optimal results for the whole quilt.

Complex adaptive systems allow higher levels of order and complexity to arise from building blocks of lower level, seemingly chaotic behavior. By encouraging Six Sigma to take root and grow in a few key patches and spread to neighboring patches, you can create a more stable environment for Six Sigma. I call this the crawl-walk-run approach to Six Sigma.

To succeed at Six Sigma, we have to shift our attention from top management commitment because it invokes the Stalinist effect—guaranteed failure 50% of the time.

People Aren’t Machines

The culture inside a business isn’t a linear one. The typical hierarchy chart shows the formal organization but doesn’t begin to show all the informal communication links between individuals. These networks look like wildly interconnected hubs and spokes.

These networks are just like airlines, with hubs in certain places and spokes that radiate out to smaller and smaller ports. These informal networks are the real power behind culture change.

You’ll find Betty in purchasing and John in accounting are the experts everyone turns to for insights about that part of the business. These are the informal leaders—the hubs in the culture’s networks. These are the true leaders and the ones who survive CEO turnover. CEOs may come and go, but these people remain and steer the business toward success or failure.

The Tipping Point

In The Tipping Point, Malcolm Gladwell argues changes tip into the mainstream consciousness because of these hubs. He calls them connectors, mavens and salespeople. Connectors get their power from linking people with other people. Mavens (experts) get their power from connecting people with knowledge. Salespeople do it for money.

In Unleashing the Ideavirus, Seth Godin calls opinion leaders sneezers—people who infect the population by sneezing the idea to other people.” These opinion leaders can make or break the implementation. In essence, we had the right idea—get commitment of the leaders—but we focused on the wrong leaders: the formal ones, not the informal ones.

The messenger matters. Jack Welch helped tip Six Sigma into corporate boardrooms. Why? Not because he was a CEO, but because he was one of the well-respected, informal leaders in the CEO community. If you want Six Sigma to tip into your corporate culture, get the commitment of the informal leaders, not the formal ones.

How do you identify the sneezers in your organization? Ask a few people to name the expert on orders, purchasing or whatever. You’ll get one of two answers: “I don’t know, but John would know who the experts are.” (John’s a connector.) Or, “Betty’s the expert.” (Betty’s a maven.)

How do you get John’s and Betty’s buy-in? Use John’s connections to find the right team of mavens to work on your initial pilot projects. Enrich Betty’s expertise by bringing her up to speed on Six Sigma.

If you want Six Sigma to tip into your corporate culture, get the commitment of the informal leaders, not the formal ones.
How Cultures Adopt, Adapt Or Reject Changes

In *The Diffusion of Innovations*, Everett Rogers describes more than 50 years of research into how cultures adopt, adapt or reject innovations such as Six Sigma, the iPod or cell phones. The diffusion of an idea is a social process, not one you can legislate. The success of any innovation involves early adopters, the majority and laggards.

The early adopters will embrace Six Sigma because it’s new. The majority will want proof it works in their business. And the laggards will try to kill it before it gets started. Launching a corporatewide Six Sigma implementation often stirs up the laggards before you are ready for them.

According to Rogers, the rate at which employees adopt any change like Six Sigma can be adjusted in several key ways. Each can raise or lower the stickiness (how well it takes hold) of the change and make the idea more sneezy (easy to sneeze) through the following variables:

- **Relative advantage.** The greater the perceived advantage, the more rapidly it will be adopted. Unfortunately, most employees perceive the advantage to be BB certification that will enable them to get a better paying job elsewhere. Most CEOs think Six Sigma should help the bottom line, but most have difficulty proving it does.

- **Compatibility.** How compatible is it with what you already know? For several years, even people with a quality background such as TQM were confused about the compatibility of Six Sigma with what they already knew. Most managers who’ve succeeded through trial and error and common sense doubt the need for Six Sigma because the remaining problems have dropped below the level of their radar.

- **Complexity.** How difficult is the innovation to learn and use? Six Sigma continues to fail this one with 10-20 day trainings and long lead times to get results.

- **“Trialability.”** How easy is it to try? “New ideas that can be tried on the installment plan will generally be adopted more quickly,” says Rogers. According to *Quality Digest*’s survey, most small-to-medium sized businesses haven’t even considered Six Sigma because of the high cost of trying it. Most consulting firms quote $250,000 to get started, and that’s just for training.

- **Observability.** This is the degree to which results are visible. I don’t know if you’ve tried to find actual Six Sigma case studies in books or online, but the data to support Six Sigma are few and far between.

While these five stickiness variables make up 49 to 87% of the rate of adoptions, there are a few other variables involved: the type of decision (top-down or word of mouth), network, social system and change agent’s promotion.

According to Rogers, top-down is a faster way of starting the change but, “Authority decisions may be circumvented during their implementation.” Word of mouth is the next fastest way and minimizes the risk of rejection.

The more people who have to decide to adopt Six Sigma, the slower the rate of adoption. Reduce the number of people involved to accelerate the rate of adoption. Start small with a few key pilot projects (patches) staffed with early adopters, sneezers and an experienced guide. Make them successful. Then do the next round of projects. Adapt Six Sigma to your business as you learn. Do another round or two, and you’ll hit critical mass. Then Six Sigma will pull its way through the business. You won’t have to push it.

Geoffrey Moore found there is a chasm between the early adopters and early majority. While you may enjoy early success, Six Sigma may never jump the chasm to become part of your company’s mainstream way of doing business. The keys to the chasm are your sneezers. They’ll convince the early majority, if anyone can. Make sure you have plenty of success stories and case studies to show them how it works in your business.

Creating a Six Sigma Epidemic

Six Sigma is an idea that needs to reach epidemic proportions to convert a culture. Epidemics don’t start big; they start small and grow exponentially. The keys to growing an ideavirus like Six Sigma involve three key elements:

1. Contagiousness.
2. The butterfly effect.
3. The tipping point.
Contagiousness. Six Sigma and DMAIC (design, measure, analyze, improve, control) are more repellant than contagious. The names and acronyms turn off most people. To make Six Sigma take root and grow in your corporate culture, you’ll want to find ways to make it more sticky, sneezy and contagious.

When people ask me what I do, I don’t say Six Sigma. I say, “I work with companies that want to plug the leaks in their cash flow,” which invariably stimulates interest.

The message matters. “There is a simple way to package information that, under the right circumstances, can make it irresistible,” says Gladwell.16

The butterfly effect. Little causes can have big effects—the butterfly effect. If the hubs in your company feel stupid about Six Sigma, their whisperings will kill Six Sigma. If you try to implement Six Sigma wall to wall and floor to ceiling, you’ll end up majoring in minor things focused on the trivial many, not the vital few.

Simple changes in how you introduce Six Sigma will have big effects on how it is received. Who are the sneezers in your company? How can you make the connectors more connected, the mavens better experts and the salespeople more money?

The tipping point. Gladwell says this is the moment of critical mass.17 According to Rogers, cultures reach critical mass when between 10 to 25% of the members have adopted the change.18 This research also found that when as little as 5% of the workforce adopts a change, it will persist.

Engage your sneezers. If you’re interested in starting a word-of-mouth idea epidemic such as Six Sigma, focus on the sneezers. No one else matters.

Seduce Them With Success

Many years ago I had to convince an IT department’s systems analysts to switch from using a typing pool to doing their own word processing. Some wanted to jump right in; others wanted nothing to do with it. I catered to the early adopters and let them convince their cohorts.

I see the same thing happening in a few companies that once had a quality system but had it dismantled by a new CEO. To reintroduce the improvement methods and tools, the companies haven’t announced a big Six Sigma effort because they know they’d be laughed out of town.

Instead the change agents are going around talking to operational managers, learning their problems and offering to help solve them. Then, using the tools of Six Sigma, they find remarkable, unexpected solutions that reduce costs and increase speed and profitability.

Oddly enough, the people on those improvement teams seem to know how to continue solving problems. And they tell their co-workers. And the operational manager’s success makes his or her colleagues curious. Then the Six Sigma change agent gets a call to help another manager solve a problem. And so it goes until the Six Sigma system is operating well in the mission-critical elements of the business.

Want Six Sigma to succeed in your company? Use what I call the crawl-walk-run method. Start small with a few key sneezers. Make them successful. Make it easy for them to tell their improvement story to other people (in other words, make it sneezy).

Expand into the next tier of problems. Keep going until you reach a critical mass. Let the word-of-mouth power of the critical mass pull Six Sigma through the business. It will take less time, cost less money and deliver greater returns than you can possibly imagine.

It’s not the road most companies take, but it’s a better road to follow whether you’re implementing Six Sigma for the first time or just trying to restart a culture change that has failed.

When people ask me what I do, I don’t say Six Sigma. I say, “I work with companies that want to plug the leaks in their cash flow,” which invariably stimulates interest.
REFERENCES

2. Ibid.
7. Ibid.
11. Ibid.
12. Ibid.
17. Ibid
18. Rogers, Diffusion of Innovations, see reference 10.

JAY ARTHUR calls himself the KnowWare Man as principal of KnowWare International Inc., Denver. He earned a bachelor’s degree in operations research from the University of Arizona and is author of Six Sigma Simplified (Lifestar, 2004) and the QI Macros (Lifestar, 2005). His company is an ASQ Sustaining Member.

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