

**An interview with
Mike Chambers, Certified
Lean Six Sigma Master
Black Belt and Senior
Principal with Abidian**



This interview is one of many articles and presentations offered by Abidian to help the public better grasp the Lean, Six Sigma, and the many productivity improvement tools available. In the interview, Mike has made a special effort to include illustrations and results seen by organizations like yours who are using the tools. It's our hope the interview is also helpful in providing a better understanding of Abidian's philosophy and how we might partner with you to improve your own organization. The quoted facts and figures are from corporate websites, annual reports, and professional publications. This interview may be freely distributed and shared with others as long as no changes are made.

Question: What kinds of organizations can use Lean and Six Sigma?

Chambers: People generally think Lean and Six Sigma are limited to manufacturing companies. The many articles and testimonies about the successes of General Electric, Toyota, Motorola, Boeing, and Honeywell tend to vividly demonstrate this. Reality is any process involving people, a product, or a service could be ripe for optimizing. That might be paperwork in a human resources or accounting office, a classroom, readying a piece of medical diagnostic equipment, hold times at an IT or customer service help desk, or patient admissions and procedure wait times at a hospital. A prime example in the office and administrative services area is Bank of America. Perhaps you've even seen their commercials. So yes, it's manufacturing, but it's also banking, accounts receivables, healthcare, education, loan processing, medical physicals, fast food restaurants, and even the way we cut our grass.

Question: The way we cut our grass?

Chambers: Ideally, you'd like to cut as long a straight line as possible while minimizing the turns when you have to slow down. Assuming you have a riding mower, you want to stay safe first, but also minimize the time your foot is on the brake or going back over a spot previously cut. All of these will help you save time and motion allowing you to get back to your family and the more rewarding things in your life. If you have a large lot and don't particularly enjoy cutting the grass, these actions to improve your efficiency are particularly important to you. The point is Abidian helps you change the way you think making every day application of the tools second nature. You will find yourself applying the tools in the kitchen, the garage, and even where you place your car keys. In our family, anyone is welcome to use Dad's car, but when the car is back in the garage, the car keys are returned to the same spot so we can all find them!

Question: What is the difference between Lean and Six Sigma?

Chambers: As you focus on customer demand, Lean helps identify and remove inefficiencies. From a Lean viewpoint, we define an inefficiency as anything that is non-value added in the eyes of the customer. Like in grass cutting, added time and motion are two good examples. These are things your customer does not want to pay for. Six Sigma is a toolset that will help optimize a process once it has been "Leaned." Specifically, Six Sigma helps remove variation and, ultimately, almost all defects. As you don't want to optimize wasteful and unreliable processes, most organizations pursue reliability/stability improvements and Lean before Six Sigma. Having said that, the emphasis should be on matching the right tool to the right job. That could be Lean, Six Sigma, Theory of Constraints, or Maintenance Excellence.



Let's digress for a moment and discuss the numbers associated with performing in a Six Sigma world. Keeping in mind "sigma" is a measure of variation, true Six Sigma performance is 99.99966% quality. To put that figure in perspective, let's look at the sport of golf. If you played 100 rounds of golf a year ... and played at two sigma, you'd miss six putts a round. Three sigma would be the equivalent of one missed putt per round. If you were able to play golf at the six sigma level (i.e., with essentially no variation in your game), you'd miss only one putt every 163 years! The challenge is most organizations are operating with a good bit of wasted time and motion at the three to four sigma level. Total Productive Maintenance and Manufacturing (TPM), pioneered by the Japanese, uses many of the same Lean and Six Sigma tools with a far-reaching goal of perfection: zero accidents, zero defects, and zero breakdowns. In addition to Toyota, Milliken and Unilever are well known for their achievements in TPM. I had the opportunity to work for Milliken early in my career.

Question: What's in this for me? What are the benefits?

Chambers: On a personal level, if you're lazy (like me!), it'll make your day and your life easier. Someone once said "Organization is for people too lazy to ask or find things." That's me and it's probably a lot of your people. In addition to helping us be more productive on a personal level, the corporate benefits can be downright mind boggling. According to *iSixSigma Magazine*, Six Sigma savings of \$427 billion (about 2% of revenue) have been reported by the Fortune 500 in the last 20 years. General Electric attributed \$4.4 billion dollars (1.2% of revenue) in savings over a four year period to Six Sigma. Jack Welch, the well-known retired CEO of General Electric, had the following to say about Six Sigma: "Six Sigma is the only program I've ever seen where customers win, employees are engaged and satisfied, and shareholders are rewarded ... everybody who touches it wins." As the creator of Six Sigma, Motorola has used Six Sigma methodology in product design, manufacturing, and services in every business unit. In one case, Motorola drove down manufacturing time for a product from 40 days to less than one hour! Overall, Motorola has reported savings of \$16 billion (4.5% of revenue) over a 15 year period. Practically speaking, Toyota's TPM goal of zero defects approaches the near impossible real quick for most of us. Nonetheless, this positive stretch goal has allowed Toyota to achieve a level of efficiency and perceived quality unparalleled in the industry. In terms of the total number of cars sold, Toyota is now number one in the world. In terms of profitability, Toyota is again the clear winner. In a contracting market for most of the industry, Toyota is aggressively investing and expanding at a rate of over \$14 billion a year!

Question: Which tool is best for me?

Chambers: To determine the answer, we suggest a process known as Value Stream Mapping. The resulting map will graphically help identify and then prioritize your opportunities. We then suggest selecting the tool that will allow you to most efficiently capture the greatest opportunities. Again, that may be Lean, Six Sigma, Safety, or Maintenance Excellence. No one tool is always best or can do all things. With that in mind, most of the organizations we see have a need for Lean (time/motion/distance) and mechanical reliability improvements first. Once their processes have been both stabilized and optimized, they are then more apt to be ready for the rigor of Six Sigma.

Question: What is the most common mistake you see?

Chambers: Undeniably, it's a preconceived notion "we're not that bad." Organizations truly believe "no way can our processes be improved by 30 to 70+%!" As I said a moment ago, the reality is most companies operate at 3 sigma or about 65% "perfection." Although the issues might sometimes be small and inconsequential, about a third of all we do has some problem. From a financial perspective, there are real costs associated with quality excursions and having to redo work. These costs include expediting, overtime, higher inventory levels, and loss of production capacity. The ultimate impact, if they go on long enough, is the loss of the customer. Perhaps you've heard "close enough is good enough" ... well, "it's no longer good enough" for many customers.

Question: But if a company is already running smoothly, employees are happy, and the money is rolling in, why vary the process?

Chambers: I sense a hidden question. Optimization, even in the short term, doesn't cost. It saves. Lean especially, is noted for quickly generating happier, more involved and productive employees and associates. Over 90% of the one-week kaizen improvement events in which we've been involved have resulted in at least one Key Performance Indicator being improved by at least 70%. I have personally seen over 99% improvement. Earlier we spoke about Motorola reducing manufacturing time from 40 days to less than one hour. Motorola is a Fortune 500 company. All of these are good, solid, well-managed companies seeing these similar results. A key is identifying the right business need in which to focus your efforts and then, perhaps most importantly, leaving the rest to the creativity and innovation of your people.

Organizations Implementing Continuous Improvement, Lean, Six Sigma, and/or TPM

3M	Kraft General Foods
A.B. Dick	Lear
Abbott Labs	Lenox China
Adolph Coors	Littton
Advanced Micro Devices	Lockheed Martin
Alcoa	Loral
Allen Bradley	Los Alamos Labs
Allied Signal	Lucent
Apple Computers	Martin Marietta
Bank of America	Maytag
Baxter Pharmaseal	McDonnell Douglas
Beatrice Foods	Microsoft
Bell Helicopter	Milliken
Boeing	Motorola
Borden	Mountain View School District
Boston Scientific	NASA
Bristol Meyers - Squibb	Nat'l Institute of Corrections
Campbell Soup	Nat'l Institute of Standards
Cellular 1	Nat'l Semiconductor
Chevron	Nebraska Dept of Education
Citicorp	New Balance Shoes
City of Austin, TX	Northrop
City of Dallas, TX	Parkview Hospital
Clorox	Pentagon
Columbus OH Public Schools	Proctor & Gamble
DaimlerChrysler	Raytheon
Delphi	Rockwell
Digital Equipment	Rohm & Haas
Eastman Kodak	Seagate
EPA	Sonoco
ExxonMobil	Sony
Florida Dept. of Corrections	Texaco
Ford Motor	Texas Commerce Bank
Fort Wayne (City of)	Texas Dept. of Transportation
Foxboro	Texas Instruments
General Dynamics	Titleist
General Electric	Toyota
General Motors	Trane
General Tire	TRW
Hewlett Packard	United States Air Force
Honda	United States Army
Honeywell	United Technologies
Hyundai	UPS
Intel	Verbatim
Iomega	Wells Fargo
Johnson & Johnson	Wilson Sporting Goods
Johnson Controls	Xerox

It's naïve to think there are no improvement opportunities in your workplace. To prove our point, we'll be glad to provide a complimentary assessment of your workplace practices. We believe in our tools and will be glad to put our time and resources behind our beliefs.

Question: Are these REAL numbers or are you just measuring things differently?

Chambers: Real numbers show up in the bottom line: profitability. Again, the Fortune 500 is reported to have saved \$427 billion in the last 20 years. One of our clients, a 100+ year-old Fortune 1000 company, set a corporate record for profitability in one of its plants after implementing Lean Manufacturing. In fact, they more than doubled the previous record. Another client has seen a very real (and sustained) 40% improvement in manufacturing productivity. I have personally been involved with 3 organizations more than doubling their throughput at constant staffing and capital investment. Others in industry, like Boeing's facility in Auburn, WA reduced defects by 75%. The same plant cut their floor space requirements by 200,000 square feet. Overall, Boeing has realized resource productivity benefits of 30 to 70%. A General Motors plant used Lean and Six Sigma to reduce hazardous waste generation by 64% over four years. Fundamentally, progress, in the form of Key Performance Indicators (KPIs), has to be measured. These KPIs should be agreed upon upfront, directly related to the bottom line, and have clear goals as to desired performance levels. Qualitatively, we want to increase our ability to provide our customer more at a higher quality in a shorter time. Those things can be measured and directly impact our profitability. That's one area to focus as you select a consultant. You want bottom-line results.

Question: Is this all hard to do? It sounds complicated.

Chambers: The basis for the tools is common sense. The fundamentals, especially Lean, are easily grasped. The challenge is in their practical application. Put differently, success is often 10% tool and 90% people. That's a big reason we use the illustrations we do. The illustrations help people relate and readily understand when and how a tool might be used. At home, you don't always use a hammer in every repair. Our goal is to teach you how and when to use a hammer, screw driver, and pliers. The end result is you're more likely to know of and have the right tool at your disposal when you need it.



Question: What happens if you come in to my workplace and find out it won't work for me?

Chambers: In life and business there are no guarantees. However, our experience and the overabundance of literature on the subject support the successful application of the tools in just about any workplace: manufacturing, healthcare, academics, service, sales, non-profit, construction, financial, government, military, and insurance. The list goes on and on. The thought to keep in mind is the tools we're talking about take steps out. They simplify. They make life easier for the company and the employees ... it's win-win all the way around. After some discussion about expectations and what's involved, we've found even the crustiest of employees, union or not, tend to get involved. The biggest challenge is often for leadership to recognize the enthusiasm and capitalize on the new found energy.

Question: Will this require a lot of staff involvement?

Chambers: Yes, it will. Think of it as the chicken and pig at breakfast. The chicken is

involved. The pig however, is committed! As with most any successful endeavor, leadership and their staff must be committed. There's good news however. Done properly, a Lean or Six Sigma transformation helps identify opportunities, estimate the potential savings, and then implement a prioritized and ratable plan for achieving the improvements. This is done one step at a time. For best results, the most successful companies involve not only the staff, but also leadership and their hourly associates. From the way they organize their workspaces to the way they conduct meetings, everyone thinks efficiency and continuous improvement. They use it as a culture change. Yes, it's sometimes agonizing to get started, but the benefits down the road tend to be well worth it.

Question: I don't have a lot of staff to spare. They need to be working. What do I do?

Chambers: We don't have time to change the oil in our cars either. We do though, because the consequences of not changing are pretty painful. The same is true in today's workplace. To the extent we don't change, become more efficient, and more customer focused, it's a matter of time before we're out of business. It may not be tomorrow, but there are a lot of bankrupt and merged companies that didn't think it was their day either. Today, Kodak is one of the largest manufacturers of digital cameras. To a somewhat lesser extent, the same is true for Polaroid. However, "fuji.com" is an online cigar store. Fuji Film is very much alive, but even they have changed from consumer to industrial and medical film products. Fortunately, as we become more efficient, the improvements quickly free up resources to not only maintain the initiatives, but to grow in new areas as well. A prime example is Boeing extending their efforts to Alcoa, their largest supplier. Today, Alcoa has become a recognized leader in Lean and Six Sigma implementation in their own right. I cannot say it enough, what we're talking about is taking time and steps out ... making processes easier ... making them simpler ... making your staff more productive to free them up for even more opportunities.



Question: How is this any different from any of the other flavors of the month?

Chambers: The best are *fundamentally* changing the way they do business in the workplace ... the way they relate to their customers ... and, as we alluded, their culture. They're doing that with Lean and Six Sigma. "Fish dinners" with instant gratification are available that may appear to be flavors of the month as you say. Abidian prefers to teach our clients how to fish so they literally bring in their own meals. We understand many companies do not readily have the staff to facilitate this type of endeavor. For those companies, we develop a transition plan to provide training, mentoring, and oversight. Ultimately, the business must own the process. It's indeed comforting to know a successful roll-out will be self-perpetuating. When the troops see positive results, they'll start to volunteer. After all, we're talking about something to make their job easier. I can't stress that too much.

Dramatic Results Seen with Lean, Six Sigma, and TPM

- 30% Reduction in costs
- 40% Customer complaint reduction
- 90% Reduction in lead time
- 50% Productivity increase
- 80% Reduction in inventory
- 90% Quality improvement
- 90% Reduction in changeover time
- Elimination of the words "we can't"

Question: But a lot of workers won't change ...

Chambers: With all due respect, we would suggest the mirrored glasses be dumped! People will generally live up to our expectations, be they positive or negative. We expect people are fundamentally good and want to do better. This is especially true if we make life easier and more profitable for them.

Question: Isn't this common sense?

Chambers: Yes! A big part of our job is pointing out the common sense logic and creating an awareness of the opportunities. As an example, when we see our automobile tire is low, we stop and repair it. Why is it we continue to run a piece of equipment, plant production or office copier (it doesn't matter), when it has a problem? Just like the tire, it's only going to get worse if we don't tend to it. It will become a more difficult repair in both the time to repair and the cost to repair. Yes, that's common sense, but nonetheless, we see otherwise in our travels. A key is to help others look at the situation from a different perspective. We think we can help do that.

Question: Why should I hire Abidian?

Chambers: During the first part of my career (before joining Abidian), I worked over 25 years in Fortune 500 companies thinking my team and I could do it alone. It's human nature. As I progressed in my career, it became obvious my team and I couldn't do it all. In addition to the time and sheer human resource requirements involved, there were also skill, experience, and time to implementation considerations. To me, a key in bringing in a partner to share the load eventually becomes one of demonstrated results. Results should show up in the bottom line. Since we started business in 2005, projected savings identified by our customers from our workshops, kaizens, and in-plant efforts have topped \$80 million.

Another key in selecting a consulting partner is the chemistry and a shared overall business philosophy. You need to trust your consultant. Your people need to trust your consultant. Yet another is knowledge. Abidian has been recognized as a leader in Lean, Six Sigma, and Maintenance Excellence through our participation in a number of professional organizations, international conferences, and even Fred Thompson's Inside Business Report (seen on CNN and Fox) and the late Alexander Haig's 21st Century Business Review (seen on CNBC). Since our inception, 97% of the attendees at Abidian's workshops have rated the knowledge of their instructor as excellent. 99% of attendees have given their improvement event or workshop an overall rating of very good or excellent.

Finally, Abidian has itself affiliated with Section 1124 of the American Society for Quality (ASQ), Florence Darlington Technical College (FDTC), and the Southeastern Institute of Manufacturing and Technology (SIMT). ASQ is the world's leading authority on quality. With over 60 years of experience, ASQ is a recognized leader in training and professional certification. For nearly four decades, FDTC has provided affordable, quality education in more than 60 fields of study. With almost 4000 students and 30,000 Continuing Education registrations a year, it's acknowledged as one of the fastest growing institutions of higher learning in South Carolina. SIMT was chartered to provide leading edge training and education for eight states in the southeastern U.S. Their world-class facilities are the premier training location for industry in the southeast. We're grateful to be associated with such an illustrious team. We firmly believe the synergism of Abidian, the American Society for Quality, Florence Darlington Technical College, and the Southeastern Institute of Manufacturing Technology has the capabilities, experience, and facilities to meet the improvement needs of our customers.

Abidian provides global consulting, training, and professional certification services in process improvement. Learn more at abidian.com. You can also follow us on Twitter, My Space, and LinkedIn. This interview may be freely distributed and shared with others as long as no changes are made and appropriate acknowledgement is given to Abidian.

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