



How to Sustain Six Sigma

The best Six Sigma projects begin not inside the business but outside it, focused on answering the question, how can we make the customer more competitive?

—Jack Welch (1935-)

Making your customers more competitive is a key sign that you're successfully implementing Six Sigma. If your performance meets or exceeds the customers' in quality, delivery, and cost expectations, then all your hard work in problem-solving projects has achieved its objective. But is that where it ends?

Of course not. You don't make the investment in Six Sigma and take the time to train people, to select projects, and then to drill down to your costs of poor quality *once*. Six Sigma is ongoing; it's a constant, "living" methodology that needs to continue as long as your business does.

Naturally, individual projects that fix specific problems have start and finish times, but as part of your Six Sigma commitment, you need to initiate new projects, find more dollars, raise

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your quality levels, and maintain the momentum of your initiative. To get the best return on your investment and keep customers competitive and content, you need to *sustain the gain*.

So how do you do it? How do you avoid the seemingly inevitable outcome of decreasing momentum and declining participation?

Well, the honest answer is that it's not easy. In fact, it's the hardest thing to do—even harder than learning how to use all the statistical tools! However, it's essential. No matter how difficult it may be, you must strive to keep Six Sigma alive. Otherwise, your customers will eventually feel the negative effects of its disappearance and, therefore, so will you.

But there are a few key indicators and guidelines that you can put in place to prevent that from happening and to keep the energy level high. That's the purpose of this chapter.

Basic Infrastructure Requirements

If you look at the basic infrastructure required for successful Six Sigma, it's helpful to break it up into a two-year context. In the first year, you lay a foundation for success. In the second year, you follow up on your successful start and build on that foundation.

In the first year, you need to do the following:

- Set up your database for lessons learned.
- Develop your ongoing project list that registers both projected and actual savings.
- Establish your ongoing communication plan, both externally and internally.
- Grow your black belt and green belt populations.
- Create compensation plans and progression plans for a full two years.
- Develop a common metric and reporting/review system that evaluates and updates the status of all projects monthly.

In the second year, you need to do the following:

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- Engage your key suppliers in the Six Sigma methodology.
- Build Six Sigma goals into company-wide strategic plans.
- Host quarterly reviews with senior management.
- Host certification events that reward and recognize black belt achievements.
- Develop compensation/incentive plans that include not just black belts and team members, but also upper management, to ensure continued support.
- Get each black belt to work on four to six projects a year.
- Create a “pull” system for the Six Sigma initiative; publicize the benefits so widely that you turn away potential black belt candidates because your classes are consistently full.
- Determine the next year’s goals in the number of black belts, green belts, master black belts, project selection, and savings projections.

As you make progress with Six Sigma, all of these elements will become routine and obvious aspects of the overall scope. However, this is where it’s most important to recognize that there’s no room for complacency or easing off on Six Sigma projects—sustaining their gains is critical to the continual success of your initiative. All of the items listed point in one direction: keep it focused, keep it moving forward, and keep it in the forefront of everything you do.

Lessons Learned

The first thing you need to do is build and maintain a database of “lessons learned.” That means documenting what you’ve learned and achieved with projects to date and then relying on and sharing that information. Once you’ve fixed something, you need to be able to share what you know about it. It’s important to share the lessons far and wide, not only to tout your success, but also to address similar issues elsewhere in the organization. There’s not a lot of value in eliminating defects and keeping it to yourself—knowledge transfer needs to happen continually, both inside and outside of the project at hand.

Communication Plan

A communication plan is essential for sharing lessons learned and sustaining your Six Sigma success. Whether it's press releases, monthly newsletters, company intranet updates, video presentations, or quarterly company meetings, you need to get the message out regularly and conspicuously to people inside and outside the organization.

You can report on the progress of projects, itemize actual dollar savings to date, explain Six Sigma acronyms, or focus in on the key tools. What's essential is to keep getting the word out on the benefits of Six Sigma.

As you know, all levels of personnel should be familiar with the basics of your Six Sigma mission, including terminology, roles, and metrics. This is to ensure that people can "link" between the big picture and actionable items in their different areas. Again, it's all about communicating, in real terms, the powerful implications of each and every project.

Training for Six Sigma

When you start Six Sigma, you focus on training black belts, since they're the tactical leaders of each and every project. What about green belts? Well, when you start out, the ratio of black belts to green belts is about one to three. However, by the time you start the second year, green belts generally increase to about 10% of your company's population.

That increase is based on ever-expanding projects and hands-on expertise, not just by training more candidates for the job. Why? Because the information is being passed throughout the organization. As black belts and green belts become more proficient, they reach out to train others. The exponential benefit is impressive; you must keep the momentum alive by fully recognizing and exploiting this new resource by putting the black belts and green belts to work on new projects.

You can also take this one step further by requiring that all your staff members be trained as green belts; in this way, you are assured that the majority will not only understand, but also

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participate in the entire Six Sigma initiative. In fact, this training in and of itself can be a project for black belts, as they take on the training responsibility for green belts in their areas.

At least 70% of your black belts should be certified in the first year of your initiative. How are they certified? By completing a minimum of two projects with financial benefits that are independently confirmed by the company controller. (You may remember that in Chapter 4 we discussed the importance of including and informing the controller's department. This becomes even more evident when you seek certification.) Black belts also undergo a tool assessment, an investigation into whether or not they're using the tools correctly. It looks at how they're interpreting the data and whether or not they're getting the maximum financial results from it.

Certification basically translates to a confirmation that your black belts are doing what they're supposed to, that they're following the DMAIC/MAIC method and using the key tools to unearth defects and dollars. Black belts also need to demonstrate a complete list of backlog projects. Simple as it sounds, if you don't have a list of your backlog projects, you're going to have trouble sustaining the gain. Why? Because of the Six Sigma discipline of documenting and quantifying what you're going to work on, why you're going to work on it, and when. It's essential that this be communicated.

On top of this, you need to keep your black belt retention rates high. You want to keep at least 75% of your black belts focused and working on Six Sigma projects. You want to aim for a dropout rate of no more than 5% and have a structured plan to replace dropouts. Given the scope of the investment in every aspect, it's critical that you maintain and grow what you've started. Your success in this area can best be measured by filling black belt training classes. Remember that Six Sigma is an ongoing process: you need to keep spreading the message and methodology throughout the organization to keep retrieving those hidden dollars.

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Black Belt Certification Events

Along with certifying black belts goes hand in glove formally recognizing their accomplishments. As they meet or exceed their individual objectives, you must celebrate their successes, along with the company's overall results.

By hosting certification events, you send a clear signal that black belts and their efforts are highly valued. It's essential to do so—no matter what the individual rank, the project scope, or the dollar value realized, you must demonstrate your appreciation for a job well done. This has ramifications far beyond creating a “feel-good” atmosphere: it shows how seriously you take the Six Sigma work the back belts are doing and what's in it for those who actively participate.

Company Culture

Linking all of your recognition of Six Sigma contributors to the structure of your compensation plans gives you a powerful motivator at the employee level to sustain the gain!

Recognition Pays

When you publicly acknowledge the successful performance of black belts and their team members, you acknowledge that the investment in Six Sigma has paid off for all parties—company and individuals. Recognition events signal the impact and relevance of Six Sigma projects and indicate just how positive and profitable they are. They *certify* that black belts have mastered the necessary skills required for eliminating defects in any given process.

Depending on your company size and culture, these certification events can take the form of awards dinners, percentage bonuses, or other incentive packages. They can range from lavish and elaborate occasions to more simple incentive programs, depending on your company culture and size. But whatever the form of recognition, when you emphasize the results achieved, the black belt reward structure speaks to others and inspires them to attain black belt status. Certification events are highly motivating public relations tools that really promote each individual success and help net you even more down the road.



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Rewarding master black belts, black belts, and green belts for their efforts virtually guarantees sustained interest and energy. You need to establish compensation plans to keep the skill and expertise you've invested so much to develop.

Think about it: how can you avoid a "brain drain," where you lose the entire investment in Six Sigma personnel? Obviously, there's going to be some attrition as people's circumstances change, as they get promoted or they leave the company. You can minimize the losses, however, by clearly communicating and committing to a specifically structured, incentive-based compensation plan for all those involved in Six Sigma at any level.

From executives to line workers, managers to support staff, the compensation plan is a proven tool for keeping the Six Sigma fire burning brightly in the organization. When you "metric" individual performance and tie bonuses to outcomes, you can be assured that your projects will continue to turn in the results you want.

Signs of Success

As you look at the progression of your Six Sigma initiative in its first two years of life, you'll see certain patterns emerging, if you've implemented it correctly. There are certain characteristics to each year's efforts that indicate how well you're sustaining its methodology.

Here's what you want in the first year:

- Train the best of the best for black belt projects.
- Experience dropout rates under 5%.
- Break even within approximately eight months after the initial training.
- Begin the backlog of projects and actively manage the reviews.
- Establish process metrics and set baseline data into strategic plans for the next year.

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- Set up the database that captures savings and lessons learned.
- Discover two to four master black belts upon the completion of training.
- Get green belt training under way.

Whether or not you accomplish all of these things is determined by individual company structures and other real-world issues. However, this list of “signs of success” remains the right place to start. Although this may seem repetitive or obvious to you, it’s essential that you put in place structures to monitor your progress right from the start. Otherwise, how can you assess what and how well you are doing?

As you move into your second year as a seasoned Six Sigma expert (!), here are some other signs of success:

- Your internal master black belts are training black belts.
- Dollar savings increase by 300% over the first year’s targets.
- Green belts represent 10% of your company population.
- All training has transitioned from an outside consultant to your own company resources.
- Communication is ongoing, externally and internally.
- Black belts are being promoted.
- The project backlog represents no more than 3% to 5% of company revenue.

Again, some of this may look like wishful thinking when set against your particular reality. But consider the benefits of a self-sustaining and exponential Six Sigma initiative when properly and consistently implemented: you and your company are poised to sustain huge gains and expand them as each year passes. Doing so relies on keeping Six Sigma an active, fully focused part of the company’s mission and strategy. If you can work toward that goal and remain committed to fostering application of Six Sigma in all departments, you’ll see the enduring results and return on investment you want.

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Company Cycles

Make your suppliers a part of your Six Sigma world. You want them involved in your initiative because, depending on your industry, if you're engaged in making or servicing something, chances are good that you use their parts or processes to complete it. Obviously, they affect your defect levels and waste streams.

Basically, you want to train them and get them up to speed with Six Sigma so they can fix or eliminate defects before they reach you. You can leverage both Six Sigma standards and your supplier relationships to further effective, positive, and lasting change in this area. It's in the best interests of your



Agitating for Answers

I recently consulted with a major appliance manufacturer that had a chronic problem with its washing machines: the agitators routinely did not fit. A one-person task of inserting the agitator often became a two-person job of force-fitting the agitator into the washer. Naturally, customers eventually paid the price for this defect: washing machines that didn't work properly. The cost of poor quality soared when field technicians couldn't fix the problem and had to return the machines to the plant. The cost of this problem amounted to \$1 million annually.

The black belt assigned to the problem asked why the agitators sometimes fit and sometimes didn't. He examined all aspects of the part and determined that the weights of the agitators were inconsistent.

It turned out that the supplier had never *weighed* the agitators! Getting the supplier involved in the project fixed the problem at its source—before the agitators even arrived at the manufacturing plant! The supplier went back through its processes: it examined its 10 injection molds, identified those that were the source of the weight variation, and then corrected the problem, so that all agitators were weighted correctly and uniformly.

Everybody in the supply chain won and captured the dollars previously lost in returns, restocking, rework, and the high cost of poor quality that affected them all. And, most important, the company was able to consistently meet customers' expectations of quality.

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top 10 suppliers to conform to your new standard of quality—not only to retain your business, but also to actually improve their own simply by embracing the core attributes of Six Sigma.

Partnering with suppliers is an excellent source of improvement and savings; by equally sharing in the techniques, tools, and dollar savings, both parties benefit tremendously. Again, it's a long-term view that yields both short- and long-term results. Look into how and where you can do the same with your primary suppliers, because it's an excellent example of how to pick low-hanging fruit.

Reinforcement and Control

It's also necessary for executive management to regularly review and oversee the entire Six Sigma initiative. This is important to reinforce the depth of the Six Sigma commitment and to keep senior leaders involved and engaged in the process. At least quarterly, senior executives should know and understand the progress of all current projects, the financial results achieved, and the projects ahead.

Six Sigma planning should be built into the business plan; it should be considered an integral element of any strategic planning. As goals are set, Six Sigma personnel and projects should be included as key to achieving them. Six Sigma, over time, must become part of the “genetic code” of the business, an integral part of every tactic and strategy. As noted in Chapter 5, that's an executive responsibility, to make sure that Six Sigma becomes part of the “genetic code” of the company, by inspiring and promoting a Six Sigma culture throughout the organization.

One way to ensure that you're sustaining Six Sigma properly is to use a “sustainability checklist” (Table 9-1). That's a methodical, clear approach to knowing whether or not you're managing to keep the fire burning.

Six Sigma is a pervasive and active methodology. Its benefits are too plentiful to relegate it to a sideline role in the vague hope you might get some benefit from it. It works because it's constant and obvious and because it permeates your company.

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Keeping Six Sigma at the forefront keeps your tangible financial gains at the forefront too.

The 21-Question Status Check

The following 21 questions are an excellent guide to assessing the sustained performance of your Six Sigma initiative. By routinely examining and reinforcing your mission with this status check, you minimize the potential for slipping or slacking in company-wide projects. Keep asking and keep answering these fundamentally important questions and you'll keep your initiative on track:

1. Do you think the Six Sigma process is self-sustaining in your group?
2. What is the status of your master black belts?
3. What is the status of your green belts?
4. How many reviews do your senior executives attend?
5. What are the dropout rates?
6. How many projects are officially completed?
7. How many black belts are ready for certification?
8. Has the finance department been an active part of the process?
9. Have you and the finance department agreed on the guidelines that define true savings?
10. Do you currently have a manual system for tracking the backlog list of black belt projects by plant?
11. Do you have the next set of black belts identified and is upper management supportive?
12. Do you think you are focusing on implementing project completions?
13. Are you attempting to change the program or staying with the black belts' focus?
14. Should you stop doing Six Sigma?
15. What is the status report you are giving to senior management?
16. Are the controllers signing off on your projects?
17. Are the controllers aware of the savings?
18. If you were to spot-check the controllers, what defect rate would you find? (In other words, how many do not know about the savings achieved by the projects?)
19. What database are you going to use through the life of tracking your Six Sigma projects?
20. What is the status of the black belt incentive program discussed at the beginning of the Six Sigma initiative?

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21. What are the consequences for champions not helping and driving black belts?

All these questions are highly relevant and thought-provoking. And all your answers must be true and backed up by proof, not assumptions, to keep the momentum going.

The last question is directed at you, specifically, as a manager. You need to honestly examine whether or not you're removing barriers and supporting black belts in their efforts to achieve financial results. If you're not, then you need to take the necessary steps to do so. Remember: black belts and project teams see you as the motivating force, the initiator of the culture change required to identify and remove defects!

Table 9-1. Sustainability checklist

The proof that Six Sigma works is its financial impact on the bottom line—you can't misread the dollar savings! Sustaining Six Sigma takes commitment and leadership; you must be constantly striving to reinforce its value while introducing it further and further down the line to other employees. By making sure that your results are broadcast, that your black belt team is solid, and that your executive staff promotes the methodology, you will be well positioned to *sustain the gain*.

Manager's Checklist for Chapter 9

- Managers play a key role in sustaining Six Sigma. By developing a database of lessons learned, you can share your findings and techniques for future applications.
- Recognize that the initial enthusiasm, commitment, and training and the project results you achieve you must sustain and expand. If you do it right, your results and the momentum will only build! Determine and communicate your expectations for the first year of Six Sigma and for the second.
- You need to establish and maintain a good communication plan to keep everybody current on your Six Sigma initia-

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tive. Use company meetings, newsletters, e-mail, or any other appropriate vehicle to keep awareness high.

- Support continual training programs for Six Sigma. Training should take place throughout the organization, both formally and informally. Black belts should train green belts and you should increase the number of champions and master black belts: sharing knowledge spreads the Six Sigma message far and wide.
- Key to sustaining Six Sigma is to institute a pay-for-performance incentive plan. By linking a bonus structure to project outcomes, you'll maintain the methodology throughout the company.
- Host specific black belt certification events. These are vital to demonstrating both the power of the Six Sigma methodology and showing your recognition and rewards for a job well done.
- Involve your key suppliers in your Six Sigma initiative. Often, some aspect of their product or service may contain a hidden defect that ultimately costs you with customers. By partnering to root out defects, you and your supplier both win from the improved productivity.
- Be sure senior executives visibly support and endorse Six Sigma with regular reviews. As long as upper management signal that they care about and believe in the initiative, its strategic importance is clear to all.
- Maintain a Six Sigma sustainability checklist. This is an excellent tool for measuring the health of your initiative over time.