

Six Sigma Program Success Factors

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MAJOR BUSINESS
INITIATIVE.

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From the time that the Six Sigma quality program was first implemented at GE Appliances (GEA) in 1995, I have had numerous occasions to present an overview of the program to organizations that are considering Six Sigma for their companies. Invariably, someone will be brave enough to ask the question, “What makes Six Sigma different from total quality management or other quality improvement programs that preceded it?” It reminds me of the story of the emperor’s new clothes and the little boy who pointed out that the emperor was really naked. If you strip away the commercialization from Six Sigma and see it naked, it doesn’t appear that there is much that is new or different, at first. But there is. And the elements that do distinguish it from past initiatives make all the difference in the success of this program, where its predecessors have failed.

After six years of developing and implementing deployment plans for the Six Sigma program and training the Six Sigma project leaders known as Black Belts (BBs) at a dozen major businesses, I’ve developed what I believe are the success factors to implementing a Six Sigma program. From this broad experience with a variety of businesses, a variety of distinctive corporate cultures and various approaches, I’ve seen what works and what does not. I’ve observed businesses that dedicated themselves to an effort that spoke of commitment and faith in themselves and their resources. I saw outstanding results. For example, LG Electronics’ appliance business achieved a 50% reduction in defects from its start in 1995 until the year 2000. I struggled to work with businesses that are intent on finding every shortcut possible. They are still struggling. If the shortcuts worked, Six Sigma would never have been developed.

The purpose of this paper is to discuss the success factors and share the benefit of my insights. For those of you who have a short attention span like me, I’ve presented the factors in a convenient list at the beginning of the paper. If you have a few more moments, read on and I’ll discuss the merits of each of these factors. Perhaps one of my most important learnings from this experience was the realization that these success factors have global application to assist in the successful implementation of any major business initiative, not just the Six Sigma program.

Here’s my list of what I believe are those key success factors:

1. Deployment plan.
2. Active participation of the senior executives.
3. Project reviews.
4. Technical support (Master Black Belts).
5. Full-time vs. part-time resources.
6. Training.
7. Communications.

8. Project selection.
9. Project tracking.
10. Incentive program.
11. Safe environment.
12. Supplier plan.
13. Customer “WOWS.”

Success Factor 1—Deployment Plan

I recently heard Stanley Marash of the SAM Group describe Six Sigma as “TQM with a deployment plan.” What did he mean by a deployment plan? Read deployment as “action.” The lack of understanding of this fundamental point (or lack of experience in developing a deployment plan) is a primary factor that contributed to the failure of some of the earlier quality improvement programs. Certainly, not all the precursors to Six Sigma failed. I believe that where they succeeded, you’ll find someone in the organization intuitively understood the need for a well-defined deployment plan and followed through.

Every structure needs a foundation to support it. The key to designing a foundation is to know or anticipate the needs of the structure. In other words, what are the forces that will act upon the structure? They could be a physical entity or an organization or a new business initiative. What strengths need to be built into the foundation? The Six Sigma program, as it was implemented at GEA (and throughout the GE Co.) included the best designed foundation I’ve yet to see for the introduction of a major business initiative.

The program was implemented from the top of the organization on down. The deployment was thorough and detailed. It included restructuring of the organization to provide supporting infrastructure, training, communications and rewards. The leadership was fully committed and supportive. Plans were tracked to ensure follow through. Importantly, it fully employed the success factors that I continue to discuss here.

Success Factor 2—Active Participation of The Senior Executives

Neither the Six Sigma program nor any major initiative will survive for long without support and commitment from the senior leadership of the organization. I’m not talking about someone who approves expenditures and assigns someone the task of doing the job and coming back with a report. I’m talking about rolling up your sleeves and wading in with your people.

If we were visiting a company where management was actively participating in the program, what behav-

iors would we observe?

Clear goals will have been established to define the cost reduction targets, defect reduction target and timing to achieve the targets. The entire employee population will have received clear communications on a frequent basis describing the program, what the objectives are, progress reports and how each employee can participate and contribute. Senior executives will have participated in a training program designed to enable them to intelligently take part in project reviews. They may even have implemented a project of their own. Senior executives will have attended regularly scheduled project reviews. They were active listeners in the reviews and asked probing questions.

What other behaviors would we see from senior managers in a successful Six Sigma program? They would be present at the start of each new wave of training to address the class participants. It’s an opportunity to energize the participants, tell them what is expected of them, give them a commitment of support from management and communicate how important their participation will be toward the success of the program and the business. It is also a time to answer questions to help set people at ease before they venture down this new path full of unknowns.

A senior manager would have attended the closing session of a class to once again thank the participants for their dedication and accomplishments to date. Senior managers should essentially be a visible part of the program.

Could we expect any other part of the organization to carry these responsibilities? Not likely. That’s why this is so critical.

Success Factor 3—Project Reviews

What is the purpose of having a review process? If reviews are conducted on a regularly scheduled basis, the process maintains constant, steady pressure on the BBs and Green Belts (GBs) to drive their projects to a successful completion and closure. Reviews provide oversight to make sure that the BBs and GBs are correctly following the Six Sigma strategy and methodology. They ensure proper use of the Six Sigma tools.

They are not technical reviews. The audience is not there to provide the BB with a technical solution. Questions and comments should be constructive. Senior managers should use the forum to understand what the BBs’ accomplishments and insights were in the recently completed phase of the project. Applaud them for their wins and for their creativity. The

process should be one that builds confidence and promotes learning. Think of it as a workshop.

Senior managers should also use the project review process to understand what the BBs see as barriers to their progress. Allow the BBs to propose solutions and find out how management can support the solutions, such as funding (is it appropriate, are there alternatives?), manpower and organizational issues.

Success Factor 4—Technical Support

How many times have you purchased a new item for the home that carries those dreaded words: “Some assembly required.” Puts fear in your heart, doesn’t it? Sometimes the manufacturer tries to put you at ease by listing the “few, simple tools” required, except they usually leave out the most important one—a friend. Actually, I once purchased a grill that included “friend” in the list of required tools to complete the assembly. I appreciated the honesty and the heads-up.

Bring in the Master Black Belts (MBBs). What is their role? Project leaders or BBs will need support from the senior executives or Champions to address organizational issues, but they will also need support to address their technical issues. This is the role of the MBB. They are the teachers, mentors and coaches for the BBs and GBs. If you think this is just fluff that was added into the program by Mikel Harry, it’s not. Too many programs die when the people on the front line run into barriers or stumbling blocks created by technical issues they don’t fully understand. Or the project team thinks it does understand the problem, but its approach fails to deliver the expected results. The wind comes out of the sail, and the project languishes. Eventually the effort is abandoned.

The MBBs meet with their BBs on a regular basis, probably weekly, to evaluate the status of the current project, the approach that the BBs and team are using and the results of the effort. The MBB is there to provide course correction and help troubleshoot the unexpected problems the team may encounter. This is especially critical during BBs’ or GBs’ early projects, until they get their feet solidly underneath them.

How many MBBs do you need? I’ve seen guidelines, but I think this is best determined by your own situation. Start with your organizational goal and work from there.

- The quality goal (ppm reduction or achieved sigma level), along with the target date, will drive the pace of your efforts.
- The size and complexity of your operations will

determine the number of projects you’ll need to complete each year to achieve your desired quality levels by the chosen date.

- The number of projects and your pace will guide the number of BBs required to implement and lead the projects.
- Finally, the number of BBs in the organization will determine the number of MBBs you’ll need to support them. An MBB should expect to spend at least one hour of contact time each week for each BB he or she is mentoring. When deciding on the number of MBBs you need, consider also the time an MBB will devote to classroom training and other deployment related activities.

This will help you establish the number of MBBs you’ll need. Start out with a tight workload for the MBBs, and grow as needed.

Where do the MBBs come from? These are your best and brightest. If you can’t afford to stock the program with this level of talent, how do you expect to protect your investment? Choose people who have demonstrated strong leadership skills under fire and the ability to be a change agent. Find people who successfully carried out the responsibilities of a major project and may have also stepped in to fill a breach left by others. You’ll need that kind of character. There is no substitute for tenacity.

Six Sigma is not a magic bullet that solves problems automatically by having some data entered into a few blank fields with prompts from a software program. It requires people who are good thinkers with creativity and strong analytical skills. Finally, select people who want to be part of the effort. If possible, create an atmosphere in which the Six Sigma program is staffed by pull rather than push. In other words, the participants are involved because they were drawn to the opportunity rather than forced to participate.

The ambivalence that I have observed in some training classes generally comes from people who were in the room because they were sent against their will. What effort can you possibly expect from someone who feels that way, especially when the going gets tough? What kind of an ambassador do you think the “I don’t want to be here” folks will make as they move about the operations and interact with other employees? Don’t waste their time or yours.

Success Factor 5—Full-Time vs. Part-Time Resources

One of the early dilemmas faced by many businesses embracing Six Sigma is whether to assign BBs to full-

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time or part-time implementation of improvement projects. This is a business decision to be made on an individual basis. There isn't one single answer for all organizations. Here are some of the points to consider when making this decision:

- Is a major competitive threat looming on the near horizon?
- Is a major customer close to leaving you because of a high degree of dissatisfaction with your performance?
- Is there a major threat to your profitability?
- Is a new product introduction program on the near horizon?
- Is a major product or service redesign program planned for the near term?
- Is the company's stock performing poorly in the marketplace?
- What are your cost or defect reduction goals and the schedule to achieve them?

If you're facing a "significant emotional event," a part-time effort is not likely to achieve the desired results in the time available. One of my former managers, Robert Hoban, used to tell me, "Don't start vast projects with 'half-vast' ideas."

Business observers were impressed by a target Jack Welch's set for GE in 1995: Six Sigma by the year 2000. Welch had the full support of the organization, the resources at his disposal were massive and much of those resources were dedicated full-time to the implementation of the improvement projects. Don't attempt to emulate these objectives and establish aggressive goals unless you are prepared to apply the resources aggressively.

One of my clients carved out 30% of the clerical staff in his business and dedicated them to full-time project implementation. This made a number of people uneasy. They asked, "Who is going to do all the work that these people were doing?" We asked, "What is the work that they are actually doing? What portion of their day is actually given to true value-added

tasks?" If you really have faith in the Six Sigma program and faith that your people will successfully implement their projects and have selected the right projects, then you should believe that the results of the projects are going to greatly reduce non-value-added work and the associated resources.

It took my client about one year for his organization to become comfortable with the decision, but they were successful. Those clerical positions that were redirected were never backfilled.

Success Factor 6—Training

Be sure that the training program is thorough, but don't overwhelm people. Don't "sheep dip" people and call it training. I've seen that. I visited a training session, a room with 80 people in the class. Most of those in the back and in the corners of the room had mentally checked out and were not engaged at all. What a terrible waste of time and money. People are not machines. The training strategy was developed with a mathematical formula. The CEO decided on the total number of people he wanted trained in one year. The training team calculated the number of trainers and weeks available and computed the number of people to squeeze into the room in each session to meet the target. The team did, in fact, move that number of people through the training process. I did say "move," didn't I? The training program does not need to be an attempt to make up, in one effort, all that was neglected for the past decade. You'll get there, one step at a time.

I met with a company that asked me to help them retrain their BBs. This company had started life as an independent operation. A very large chemical company later acquired them. The new parent firm had adopted Six Sigma and instructed this new division to get on board. My contact explained to me that the initial BB training had included 300 tools. I was impressed. My contact went on to explain that the instructor had covered the tools superficially because of the volume and time available. Sound a little like

another mathematical formula being used as a strategy? The program was designed to be a mile wide and an inch deep.

Whoever your instructor is, whatever training material is used, whatever training schedule is selected, be sure that the BBs leave the classroom enabled. I've assessed this by giving a pop quiz at the start of each day to test the participants understanding of what I taught the previous day. The project reviews will also reveal the true level of capability of the BBs. If you see that the ability to apply the learning is not reflected in the project reviews, make adjustments in the depth and pace of the training program.

The initial training schedule that we used in 1995 was four sessions, each one week in duration. Each session addressed the four phases of the Six Sigma program as they were defined at that time: measure, analyze, improve and control.

It wasn't long before we recognized that one of the biggest hurdles to the program was good project selection—identifying the right critical to quality characteristics (CTQs). We thought this to be intuitively obvious at first. It's not, for most people. So a new phase, define, was added to the training and the project implementation strategy. Be prepared to make adjustments along the way. The design of a program at any point is a model; it's not the end. As statistician William Hunter said, "All models are wrong, some are better than others."

Success Factor 7—Communications

Develop a plan to communicate the Six Sigma program to your entire organization.

At the onset of the program communicate:

- What Six Sigma is.
- Why the organization is embarking on this journey.
- What the business goals are.
- What the deployment plan is.
- How each employee will be able to participate.

As the program progresses, communicate:

- Training plans.
- Projects selected, in progress and completed.
- Benefits to the business realized to date.
- Customer impact—new customers and incremental sales.

Make people feel a part of the program. Don't let them become bystanders watching from the sidelines.

Eventually, you will need all the employees to participate in the program. They will support projects as team members; they will nominate suggestions for projects. If the program launch makes the general employee population feel left out, it will be difficult to gain its support and contribution when the need arises later on—and it will arise. BBs will lead the projects, but they will need the benefit of employees with intimate knowledge and experience to help plan and execute the projects. Leave no employee behind.

Success Factor 8—Project Selection

One of the most frequently discussed frustrations I hear from my clients involves project selection. Let's first define what makes a good project. Then let's discuss setting up a process to identify or capture the project candidates.

- **Focus on CTQ.** A good project is one that will have a measurable impact on a CTQ. In other words, if you picked an appropriate project and completed it successfully, your customer should be able to notice a difference. Bear in mind that this applies to an external or internal customer.
- **The response variable can be easily measured.** At GEA, we struggled with the reliability of a measurement system for belt tension. We even went to companies in the automotive industry to get some insight. Basically, they were unable to enlighten us on that one, in spite of having far more experience. They hadn't cracked the code on this problem either. There are methods of working through challenges like this. Unless the impact of the problem on your customer or finances dictates that you set a high priority, these types of projects are best done when you have had more Six Sigma project experience.
- **There should be a financial benefit to the business.** Start with goals that are attainable, such as \$50,000 annual savings from a project. I spent 30 minutes one afternoon patiently listening to a BB describe his project to me. Finally, I asked him what impact is experienced by the business from the defect he described. He couldn't answer that directly. I asked him what cost results from a defect. He said there was none. "Why are you doing this project, then?" I asked him. I suspect that there really was a cost in his situation, but it just wasn't clear to him. But you've got to ask the question until you come up with a definitive answer. This is why it's important to have some-

FOLKS WHO ARE CONSIDERING OR ARE BEING CONSIDERED FOR THE BB ROLE NEED TO UNDERSTAND HOW THEY WILL BE ABLE TO TRANSITION BACK INTO MORE TRADITIONAL ROLES IN THE ORGANIZATION.

one from finance on your project team. At GEA, we even included a finance person on the MBB team, and I believe that it contributed greatly to our success there.

- **Data can be easily collected.** Sure, there are projects for which data collection is slow and laborious, especially in low volume operations. While it may be prudent to initially set a lower priority on attacking these because of the difficulty in collecting adequate amounts of data, they may still be important because of their cost of poor quality. One of the lowest volume defects in the appliance business at one time was also one of the most costly: cracked refrigerator liners. There was no repair possible, so the solution, when it occurred, was to replace the entire refrigerator. Once the magnitude of the cost was fully understood, it became the hottest project until it was brought under control.
- **The project has a high probability of success.**
- **The project can be completed in four to six months.**
- **Don't leave it to the BBs to select their own projects.** These folks are often a great source for new project ideas to add the project hopper, but a small task force with a view of the big picture should make the decisions on which projects to accept and to whom the projects will be assigned.

Establish a team that will be responsible for developing a project selection process. Make them the recipients of all the nominations for projects. Let them screen the ideas for the final choices of projects to be accepted into the project hopper. Their responsibility should include establishing the criteria for setting priorities. The ultimate goal in this process is to have the hopper constantly full. As soon as a BB or GB closes a project, there should be another one waiting to be assigned to him or her.

- **Use the correct approach.** The method you choose should take into consideration the information systems, data sources and organizational structure you currently have in place. For example, if your quality organization is centralized, you might leverage an existing position in that organization to be the guru of the project hopper. If you have a formalized customer feedback system or field quality data system, establish the criteria for setting priorities and funnel this data to the project selection team. If these areas are lacking, it should be part of your deployment plan to develop these information sources.

The following are various approaches to identifying projects:

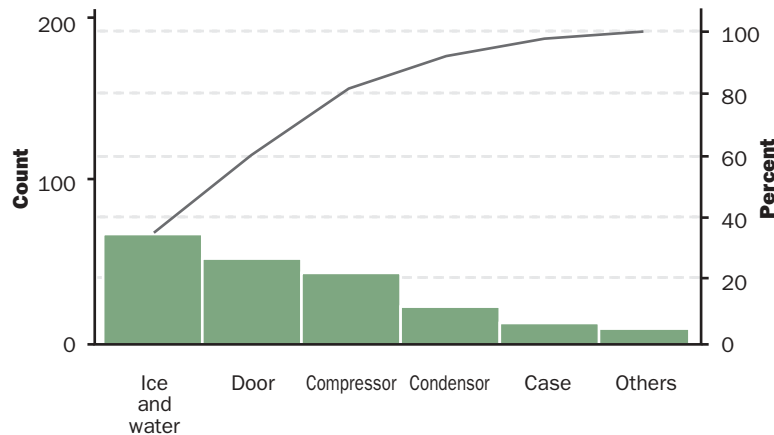
1. **Gather field quality data.** Use Pareto analysis to rank the significant problems and group the data. This will provide focus. When we started our Six Sigma effort in GEA, our first approach to project assignments was to have a BB working on a project in every part of the business. The result was that we were a mile wide and an inch deep. When the first round of projects was completed, there was little movement detected by the business or by the customer. The effect of our effort was somewhat diluted. Later, we started to assign projects that were strategically grouped. For example, several projects were identified in the Bloomington plant operations related to the icemaker. This concentration of projects made a detectable difference in the customer cue we called "ice and water" and made a measurable difference in our field quality results.

2. **Develop a comprehensive process map of operations that describes the steps to deliver your product or service.** Measure the first pass yield at each step of the map. While this may take considerable time and effort, the benefits of establishing a comprehensive baseline will be significant over the long term.

3. **Benchmark your critical processes (core competencies).** What would it take to sustain or achieve a competitive level of capability for each process?

4. **Determine the cost of poor quality.** Be careful

Figure 1. Pareto Chart for Refrigerator



Defect	Count	Percentage	Cumulative percentage
Ice and water	65	33.9	33.9
Door	50	26.0	59.9
Compressor	42	21.9	81.8
Condensor	20	10.4	92.2
Case	10	5.2	97.4
Others	5	2.6	100.0

Selecting one project in each of the major product areas (Pareto chart) will achieve broad coverage. By drilling down into a specific area (chart in this box) and selecting a group of related projects, a measurable impact is more likely to be detected by the customer.

not to rank the priority of your projects solely on the basis of frequency of occurrence. A high cost of failure for a particular defect can elevate the priority of a project in spite of a low frequency of occurrence.

Factor 9—Project Tracking

Establish a system to track all projects. This includes projects submitted for consideration, projects accepted for implementation, projects in progress and projects completed. Keeping tabs of the projects proposed but declined may help you avoid having to plow that ground again if the idea is resubmitted by another source.

A good tracking system is a management tool that:

- Tracks the cumulative results (savings, defect reduction) of completed projects.

- Alerts you to projects that are stalled.
- Serves as a library of information that can be researched by the entire company to leverage lessons learned, thereby accelerating your implementation of improvement projects.
- Maintains a history file to benefit future process owners as your personnel move about the organization.

A good tracking system is simple for adding and updating projects in the system and will include a basic reporting capability. Don't load the system with bells and whistles. All those extra buttons are programming gymnastics that make the IT group look like heroes and make the system difficult to live with for the users.

Success Factor 10—Incentive Program

I have to admit that I was surprised when I began to discover that BBs were very concerned with the potential impact the Six Sigma program would have on their careers. In retrospect,

it's now clear to me that we were inserting a whole new function into the organization without establishing the path in and the path out.

When my manager at GEA told me that I had been selected as a candidate for the Six Sigma program and asked if I were interested, I asked him, "What is Six Sigma?" He replied, "I don't know. It has something to do with quality, but I need your answer by tomorrow morning." Most people aren't going to take the leap of faith that I did.

Folks who are considering or are being considered for the BB role need to understand how they will be able to transition back into more traditional roles in the organization. Many of the people I've talked to feel that the program is actually going to sidetrack them from their aspirations and they will fall behind their peers.

The following list shows what I've observed that

successfully encouraged people and motivated them:

1. Recruit your best.
2. Create rewards that can be achieved in the short term (instant cash awards to recognize exceptional effort or creativity).
3. Create rewards for meeting individual goals and team goals. This was my first experience with a manager who set a team goal. It had a tremendous impact on our first group of MBBs. We didn't let anyone fail. I never saw people bond like this. It was one of the best experiences of my career at GE.
4. Advancement into leadership positions in the business requires experience as a BB. The message in this is clear. Six Sigma will not derail your career. It is the career path.

Success Factor 11—A Safe Environment

Real problems will not surface if people are afraid of repercussions. I was taken aback one day when a project manager for one of my larger clients expressed concern about lies that had been told in the past. Being somewhat naive, I wasn't certain what he meant at first. He proceeded to explain to me that for years many of the line managers had been lying to upper management about the true state of their respective operations. Until now, the line managers had been able to hide this. Now, the project manager lamented, how can they come forward with requests for help to solve problems which they had heretofore claimed did not exist? How could they suggest projects to correct processes that their reports had previously described as capable?

The mistake in the past was to hold people accountable for operations without:

- Clearly communicating the expectations.
- Providing capable processes or equipment.
- Enabling them by providing the necessary tools and training to make necessary improvements.
- Giving them the authority to intervene or stop the line to make improvements.

The frustration of lacking one or more of these necessary enablers, which are the responsibility of management, had the predictable outcome of fostering an environment lacking integrity. If this reflects in some small way the situation in your own organization, try establishing a moratorium on floggings and executions. Use the Six Sigma program as the platform to

establish these management responsibilities noted earlier.

The troops won't come around overnight. It will take some time for you to earn or restore mutual trust. But if you don't establish a safe environment where people will offer real problems begging for real solutions, you'll find your organization working on the projects with too little impact. You'll miss the real opportunities.

I worked for a plant manager who once told me that he didn't take a walk through the shop without "winging someone." While he thought that this established a healthy respect for his authority (a euphemism for fear, in this case), the long-term impact of this is mistrust and a lack of real progress.

Success Factor 12—Develop a Supplier Plan

In today's world of specialization, many businesses have moved away from vertical integration and focus their operations on their core competencies. This results in increased dependence on suppliers who are now really strategic partners. Even if you're in a service business, you likely are facing this same environment. If you think you can improve the quality of your goods or services without engaging your strategic suppliers, you are going to overlook a huge opportunity. A supplier with poor quality becomes your weak link.

Suppose you are in a consulting business and you have developed training material for a client. You need to have the materials published to deliver a training program. If the printer doesn't collate the pages properly, leaves out pages, prints them illegibly or delivers the material late, your program is in trouble—no matter the quality of your training content. You need look no further than Ford Motor Co.'s recent experience with Firestone Tires to see the effect of a supplier's quality on the final product. Consider for a moment the disproportionate weight the quality of the tire had on the final product (based on the acquisition cost of four tires vs. total manufacturing cost of the vehicle).

Get your key suppliers involved. We struggled at GE because many of our suppliers were also selling to our competition. We worried that helping our suppliers improve the products manufactured for us would ultimately result in improvement to the products they manufactured for the competition. What are the choices? Help the supplier or not. If we don't help our suppliers improve, the quality of the parts, materials, assemblies or services could be substandard to the rest of the product or services we supply our customers. Therefore, it's really not a choice.

WHILE IT'S TRUE YOUR SUPPLIER'S IMPROVED CAPABILITIES MAY ALSO BENEFIT ANY OF YOUR COMPETITORS USING THE SAME SOURCE, YOUR BENEFITS WILL BE DELIBERATE AND PLANNED WHILE THEIRS WILL BE INADVERTENT.

While it's true your supplier's improved capabilities may also benefit any of your competitors using the same source, your benefits will be deliberate and planned while theirs will be inadvertent. Yours will likely be implemented first; your competitors will be last.

You should remain one step ahead of the competition. Regardless of how you approach this issue, your competition will always try to copy your successes. It didn't take long for Whirlpool to attempt to copy GE's Six Sigma program, albeit under a different name. This is unavoidable. What you can do is be there first.

How can you get the suppliers involved? It would be great if you could hold hands with all your suppliers and have a revival. You could all walk into the world of Six Sigma together, but that's not realistic. Most of them will take the "show me" approach or say, "I'm too busy" (chopping wood, so there's no time to sharpen my axe) or it's too expensive.

Identify your strategic suppliers. Include a key member of strategic suppliers' organizations in your own training program. Be sure the person selected is a valued member of the supplier's organization who is expected to remain with them for the long term.

Be sure the supplier's executive management makes a firm commitment to support its trainee. If this person fails, it will take tremendous effort to breathe life back into the initiative. We had a couple of supplier representatives who came to class or not and worked on their project or not. They took it very casually. You can't afford that waste of time and opportunity.

Success Factor 13—Customer 'WOWS'

Many businesses that embrace Six Sigma have focused their effort on improving the bottom line—taking out cost. Remember why you're in business. It's to make a profit. Your basic strategy to achieve that purpose is to supply the needs of a customer. If the work you do each day is closely linked to this goal (making stunning PowerPoint charts doesn't count) and aligned with this strategy, the benefits will follow close behind as lower costs and increased sales.

Companies like GEA have implemented projects with a direct impact on their top line (sales revenue). Some of the projects so impressed customers that GEA realized increases in order size, new orders and new levels of customer loyalty. Loyalty is not a commodity in today's marketplace. This was accomplished by:

- Choosing projects that could have a direct impact immediately felt by the customer. In the case of GEA, the immediate customers are the distributors or megadealers. Some of their CTQs are cycle time (order to remittance time), accuracy of orders delivered and accuracy of invoices.
- Implementing a project in which the boundary extends into the customer's operations—sort of a good neighbor approach. One colleague of mine spent three days working on a process mapping exercise with one of her customers. Much of this map addressed activity inside the customer's business. At the end of the exercise, she and the customer's team had identified nine paths in the map that looped back, mostly to one person.

Someone on the team commented this was "stupid." The person who was the point of convergence for these loops said, "I've been trying to tell you guys for months, but nobody would listen."

Having identified the nonvalue-added steps, the team was able to simplify and take three weeks out of a process that formerly had a total cycle time of four months. The customer received an award from a statewide construction trade organization. My colleague earned new business and a new level of respect and customer loyalty.

A Quantum Leap Forward

If you're starting a Six Sigma program, these factors will help you achieve a successful implementation. If you've already launched your program and you are not achieving the progress you were expecting, these factors will help you get your train back on the tracks.

This requires an honest assessment of your current

plan, resources and own contributions. Nothing is improved or corrected when you're in denial. As you evaluate each of the factors I've described here, can you honestly say your organization has fully implemented it, or have you looked for shortcuts? The Six Sigma philosophy says we need to determine the key input variables in a process in order to manage and optimize the process output. Think of these success factors as the key input variables to your program.

My most profound insight from my Six Sigma implementation experience is the strategies I've described here have global application for implementation of any major initiative. These success factors and strategies are not limited to Six Sigma. Six Sigma has not only revolutionized strategies to improve quality; it has redefined them to assure successful implementation of major initiatives in any organization wishing to make a quantum leap forward. 