SIX SIGMA

What's Wrong With Six Sigma?

by **John Goodman and Jon Theuerkauf**

How could anything be wrong with measuring defects or problems? Well, nothing is wrong with the concept, but we do see problems with many of the expectations organizations have of Six Sigma and the deployments they undertake.

Start with the fact that across the literature, there is no common definition of Six Sigma. It is defined as a statistical term, but the definition ends there.

In 50 Words Or Less

- **Many incorrectly believe Six Sigma is an all or nothing ordeal. In fact, its tools and methodologies can be used separately or together to measurably improve revenue and cut cost.**
- **Its multifaceted, unclear definition has caused companies who embark on it to encounter five main obstacles.**

Should you worry about a common understanding of a Six Sigma deployment? How do you judge the success of a deployment? How do you compare the success of various deployments? Should you care? Or, should it be left up to the stakeholders, starting with customers, to determine whether what you did, and not how you did it, made things consistently better?

Six Sigma was originally used to measure defects in manufacturing processes and provide a means by which one process's performance could be objectively compared to another process's performance. Over time, its definition has become multifaceted, encompassing everything from simple process improvement to broad initiatives, such as project management, change management, rewards and compensation, leadership, culture change, voice of the customer (VoC), defect definition, problem solving and teaming.

The main problem is the market has come to think of Six Sigma in only one way: the comprehensive way General Electric (GE), Allied Signal and other early implementers employed it.

Jack Welch, for example, wanted to augment the culture at GE—a huge task! GE's employees achieved success in typical GE fashion by being the best and the brightest and simply overwhelming the opposition, internally and externally. It worked for them. They became used to doing things that way under Welch, but even at GE, people do not like change. Six Sigma worked at GE primarily because a portion of everyone's compensation was tied to the initiative's success, measured differently throughout the life cycle. Incentives were key, and lack of tangible incentives tied to Six Sigma implementation is one of the main reasons deployments of this scale fall into trouble.

The market believes Six Sigma must be a huge initiative that includes all the aspects mentioned earlier, and you are doing Six Sigma only if you buy the whole enchilada from one of the many Six Sigma vendors selling enchiladas. There is the super grande enchilada—a GE sized version of a full-blown, multifaceted Six Sigma initiative—but there are other varieties on the menu, as well.

According to many proponents, if you are going to do Six Sigma right, you will undergo an all encompassing change and embrace a business improvement process made up of very separate and distinct tools and methodologies, most of which existed prior to the Six Sigma craze. But that implies the different parts of the enchilada can't be used any other way, they have no value on their own, and they cannot be combined with another dish to make it better. Nothing could be further from the truth.

We have identified five common problems that continue to arise in organizations that are doing Six Sigma.

PROBLEM 1

Poor Management Of Expectations

What do you want to get out of your Six Sigma initiative, and what are you willing to invest? If you want to shake up an organization and change the way people think and work, order the super grande version. But don't kid yourself. You'd better be ready to pony up big bucks and have antacids available for everyone involved because it's not going to be easy.

If you are not willing to invest the money and accept a great deal of stomach churning, this is not the way to go. Consultants and your internal experts cannot bring about change on their own. It takes genuine involvement, and you must place your reputation on the line at all levels, not just make a few statements of commitment in speeches and internal newsletters and show up for a few meetings.

"Begin with the-end-in-mind" thinking works well here. Try to envision what success will look like. Where is the organization starting from culturally? Where are your allies and opponents? Who are you going to antagonize? How many other change initiatives will be going on at the same time?

Typical Symptoms

You'll hear: This stuff takes so long; it takes my best people. When are we going to see the money? How did you get that amount? You talked a good game, but you did not deliver what I thought you would. How many more of these things are we going to try?

You'll see: no executive compensation tied to the success of the deployment; early excitement that trails off after six to 12 months; no follow-through by senior management when the senior executive sponsoring the initiative does not push things along or gets moved to another position; team member apathy.

You'll feel: frustrated, worried and angry.

The Remedy

If you are considering Six Sigma or just beginning an initiative, hold a meeting with all key stakeholders and map out expectations. Then determine whether the available, committed resources and aids are adequate to ensure the expectations can be met. Identify all the forces that will work against success. Then set realistic goals and make sure they are measurable no matter which variety of Six Sigma you are implementing. Create your own definition of success. Define how much effort and which parts of Six Sigma you need to get there.

Now you have created your version of doing Six Sigma. If you get what you want, who's to tell you you're not doing Six Sigma? Your version may be different, but that's OK. If you meet your expectations and the resources are deployed as planned, then you have created your own value proposition showing why your version of Six Sigma is right for your organization.

If you are already into a deployment and are experiencing the symptoms, follow the above steps and make sure compensation is tied to success, especially if you are doing the super grande enchilada version of Six Sigma. (Remember: That doesn't mean you can't get benefits from Six Sigma if you don't do the full-blown version.)

PROBLEM 2

You Believe You Can't Use Individual Aspects of the Methodology

But you can. It all comes back to problem one: misaligned and mismanaged expectations.

Let's go to the other extreme and talk about the benefits a company that does not want a super grande enchilada Six Sigma version can receive. The easiest place to get your feet wet applying the tools in the Six Sigma toolkit is in project management. Every company runs projects. Most companies are a series of projects. The beauty of Six Sigma is that it has focused and refined three typical project management based toolkits:

1. The define, measure, analyze, improve, control methodology for incremental improvement.
2. The design toolkit for new products, services or real reengineering.
3. Some sort of quick hit or rapid improvement toolkit for really low hanging fruit.

If these toolkits are employed on their own, you will still see benefits. Maybe not to the extent of the super grande enchilada version, but then again, you are not investing as much either.

Many ingredients make up the super grande enchilada. Together these ingredients make a huge meal, but alone they still have utility and value and can be combined with other existing ingredients to provide an easily digested appetizer. Alone, these tools can add value. Together, they may add greater value, but again, it is all about managing expectations and resources.

Typical Symptoms

From Six Sigma zealots you'll hear: The typical deployment starts with a two-day off-site meeting with senior management, then we do this, and then we do that. At GE we … .

From internal resources you'll hear: We need to train a bunch of these Black Belts (BBs), and they'll do the rest. All our problems are quick hits.

You'll see: Push back from experts if you don't want an enchilada, employees who receive some training but want a belt and vendors trying to sell you more.

You'll feel: confused and full of questions.

The Remedy

Go back to the first remedy and make sure you match the deployment of your initiative to the expectations of the organization. Make sure the toolkit you bring into your organization will deliver the results. Make sure all the desired results and requirements are mapped before you decide on the tools.

We recommend looking at results in at least four categories:

1. Financial.
2. Customer satisfaction, loyalty and share of wallet and actual buying behavior.
3. Internal process and innovation.
4. Employee talent and learning.

The more results required in all or some of these areas, the more complex your deployment and the employment of the various tools will be.

PROBLEM 3

Our Problems Are Nails; We Need Hammers

This problem goes both ways, but the primary difficulty is to correctly match Six Sigma training to the type of work to be carried out.

It is important to understand the lay of the land. What are the types of things you want your initiative to focus on? What types of problems will the people you'll train work on? Simple, isolated, flow oriented process problems with really good data sources or big culture changing problems that cross many functional or geographic boundaries? Are you fixing an existing process, or do you expect to build a new one? Do you know how to differentiate between the two? Do you expect problems to be fixed in 30 days and stay fixed?

Typical Symptoms

You'll hear: You've had one week's training, and we'd like you to fix the international application process because it's too slow. All our problems are simple ones, so they should take you about 30 days to fix using those Six Sigma tools. I'm a BB, and we need to do a multiple regression analysis to ensure we have all the variables necessary to determine where to place the water cooler.

You'll see: Teams struggle with complex problems because they don't have the right Six Sigma tools to help them, while highly trained BBs apply overkill tools to simpler problems. Every problem will be considered a target for a rapid improvement project when the barriers are more complex.

You'll feel: pulled from the organization to do more faster. The newly trained Six Sigma people will be expected to work on more complex issues, even though they may be over their heads.

The Remedy

If you want to buy and implement the super grande enchilada version, you'd better hire some experts with a proven track record and have them train people in their image. If you want a gourmet meal, hire a gourmet chef.

Train those who are going to be responsible for carrying out your initiative according to your expectations. Don't expect them to be able to do more without more. And if you arm them with the entire toolkit, they'll need an experienced set of eyes and ears in the early stages to help them differentiate situations and determine which tools and approaches to use.

PROBLEM 4

Six Sigma Is Used To Improve Or Eliminate Processes That Impact External Customers in a Company Without an Effective Feedback System

Many Six Sigma initiatives give lip service to the needs and perspectives of most stakeholders and the customer when developing a project. One Six Sigma training package we reviewed had been presented to every executive and manager in a billion dollar company but failed to mention the customer until p. 37 of the report. The customer wasn't mentioned again until p. 127, when customer requirements were assumed to be known. Availability of clear, valid customer requirements and the VoC are assumed in most companies, even though benchmarking indicates this feedback process is ineffective in 70% of companies.[1, 2]

This lack of customer input causes three problems:

1. The wrong projects are selected.
2. Six Sigma is used for cost cutting, which hurts customer loyalty, especially in service industries where a key input is the customer who has variable expectations.
3. Projects tend to have a limited focus for process improvement.

The authors of "Where Has All the Magic Gone?" found nearly all the projects in 11 companies were justified based on cost savings.[3] The damage to customer loyalty is much higher in service programs because the product is produced directly in front of the customer, and any rework is done in the customer's presence.

Typical Symptoms

You'll hear: We know what the key issues are; they haven't changed in the last few years. We don't have the time or resources for research. If we fix the process, the customer will be happy. The big payoff of Six Sigma is cost savings.

The last comment is the most dangerous because no one wants to go to the trouble to estimate the revenue impact of improved service and quality.

You'll see: company documents that discuss being customer focused or driven but have no closed loop customer feedback system. Selection of Six Sigma projects designed to cut costs and eliminate activities and rejection of projects with no immediately discernable short-term payoff but which enhance the customer experience. Service and quality operations eliminated or converted to nonhuman technology applications because human service is too costly and improved loyalty is hard to take to the bank.

You'll feel: frustrated because you failed to improve customer satisfaction and lack hard data on actual customer expectations and what leads to customer disloyalty.

The Remedy

Use VoC to identify actual customer needs and expectations, and then estimate the full range of revenue implications of each project to ensure you are selecting the right projects.

Use customer interviews or surveys to identify customer expectations of any process that has been targeted for Six Sigma improvement. Examine complaint reports on the process, but remember, more than 50% of problems, even those that cause significant customer pain, are not reported. Customers often do not complain about policies they find onerous because they assume the policies will not be changed.[4]

Then, examine your brand promises to see what unrealistic or false expectations have been set by marketing and sales and where customers need education to avoid problems.[5] Identify where Six Sigma consistency will fail to take into account the needs of the customer and how they may vary by customer, requiring a tailored product to be produced.

Finally, select the expectations with the highest payoff—those that impact customer satisfaction and loyalty as well as operational cost. The impact of satisfaction and loyalty translates into future revenue and positive word of mouth, both of which are manifested only over the long term. The probable long-term revenue impact is much greater than mere cost savings when the problems actually impact the customer's experience with the product or service. In many cases, the revenue impact of better service and quality is 10 times the cost impact. Contrary to general opinion, the revenue impact and the impact on margins of better quality can be empirically demonstrated.[6]

PROBLEM 5

Are You Sure You Measured That Right?

A company will get into trouble if its quality and finance staff fail to understand the true costs of a process. Current cost accounting practices do not take into account the amount of resources consumed to produce an output because companies don't use activity based costing (ABC) and consider the impact of the process on loyalty, revenue and word of mouth. They also don't have a clear finance policy on what will be counted as savings and gains.

Typical Symptoms

You'll hear: We (the finance department) only want current cost data—we aren't interested in revenue impact because it's too fuzzy. Just give us hard headcount reductions in which whole heads are cut because minor efficiencies elsewhere will never become true, bottom-line savings.

You'll see: arguments about second- and third-place accuracy of costs, while the impact of the initiative on satisfaction, loyalty, word of mouth or revenue is rejected because it cannot be verified to the same degree of accuracy. This is even seen in environments in which the marketing staff agrees service and word of mouth are necessary to keep current customers and acquire new ones.

You'll feel: uneasy because you know the improvement is the right thing to do for the customer, regardless of whether the numbers prove it. It's what you would want if you were the customer.

The Remedy

Get the finance department to agree up-front how savings and gains will be measured. The three issues to consider are:

1. Not just measuring impact via cost reduction but also determining how to include the revenue impact of increased customer satisfaction.
2. Measuring impact only within the targeted department.
3. Setting too short a timeframe for impact measurement.

To address the first problem, use VoC data to identify the two or three key points of pain that do the most market damage, and conservatively estimate their impact on loyalty and word of mouth. Agree a decrease in those problems and an increase in stated intention to repurchase are reasonable evidence the improvement will have a measurable impact on loyalty and revenue. Agree on a conservative estimate of the impact, and if desired, divide it by two to ensure conservatism and acceptance by the finance department.

The second problem caused by the demand for rapid measurement is settling on the appropriate scope of the measurement, as most tend to be narrow and simplistic. If the measurement analyst fails to go to the trouble to implement ABC, he or she will make estimates and end up with seriously flawed sources of cost savings. In service organizations, costs are incurred in support units and units that fulfill promises made by the customer contact unit. These units are often not examined, nor are their costs included.

The third measurement problem is that both the BBs and finance staff want to arrive at the payoff in a very short timeframe. This causes you to ignore revenue because you must wait for the customer to come back and make another purchase because stated intention to buy cannot be put in the bank.

There are two underlying reasons for this inappropriate behavior. First, the BB wants to have the financial impact certified by the finance people quickly so he or she gets credit for the project and can move on to the next assignment. Second, there is a justifiable fear other market factors will impact loyalty, and revenue impact cannot be concretely tied to the project.

Needed Actions

Six Sigma risks falling into disrepute due to inflexible, one-size-fits-all application by overzealous, dogmatic advocates. Such a situation can be avoided by following these guidelines:

- Properly position Six Sigma within the organization. Train management to set proper expectations and make the resources match the expectations.
- Properly equip the staff with training, leadership and tools to deliver on the expectations.
- Ensure the VoC is actually used to define customer requirements and priorities.
- Quantify the opportunity using actual customer input. Include revenue implications and add them to the calculation of the payoff for each of the Six Sigma candidate projects to set priorities.
- Map each unit's processes, and quantify the resources consumed to produce each output.
- Revisit the original expectations for Six Sigma, the projects selected and the short- and long-term impacts. Learn from the first set of projects, and readjust the process.

Six Sigma is a great process, but management must have proper expectations and remember its impact can show up more in revenues than cost reductions.

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