



Six Sigma – Part 2: DMAIC: Defining and Measuring

An Online Continuing Education Course for Engineers

Course Number: P-5006

Credit: 5 Hours / 5 PDH / 5 CPD

Module 1

Identifying and Right-Sizing Projects

In This Module

- ▶ Defining projects to improve your processes
 - ▶ Aligning Six Sigma projects with business needs
 - ▶ Realizing the benefits of a Six Sigma project
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The essence of Six Sigma is to solve problems that are impacting business performance. But before you can solve a problem or improve performance, you have to properly define and scope your goal or objective and chart your course — the Six Sigma project. In fact, defining a project is 50 percent of the improvement game, and framing problems the right way is critical to the success of your organization.

The Define stage of the breakthrough strategy (DMAIC) requires you to identify problems to be solved, but to solve them, you must construct Six Sigma projects. To get the most out of your Six Sigma initiative, Six Sigma practitioners and management alike address these problems in a strategic way.

Defining projects for success requires you to recognize problematic areas of the business and subsequently create a clear direction for resolving these problematic areas. The key is to constrain project scope to a manageable and achievable size. Remember the metaphorical question, “How do you eat an elephant?” The answer: One bite at a time. It’s the same with Six Sigma projects. Problematic areas of the business (such as warranty returns, accounts receivable, product yield, and customer satisfaction issues) are the elephant-sized issues. Address these large concerns by engaging in more than one Six Sigma project, thereby eating the elephant one bite at a time. This module shows you how to take those bites.

Launching a Six Sigma Project

In Six Sigma, you make progress the old-fashioned way — one project at a time. That’s not to say progress is serial; it’s often accomplished in parallel as many Black Belts, Green Belts, and Yellow Belts apply the breakthrough strategy throughout an organization. In essence, projects are the unit of change; they define the collective effort by which most Six Sigma progress is accomplished. Projects represent — and in fact are — the level of granularity expressed to manage Six Sigma change, from a single process improvement to a large-scale business improvement effort. In the following sections, we walk you through each of the steps to initiating a Six Sigma project, from framing the problem to figuring out your goals and needs.

Scoping the perfect project

A Six Sigma project starts as a practical problem that adversely impacts the business and ends as a practical solution that improves business performance. The focus of a project is to solve a problem that is hurting key performance elements, such as the following:

- ✓ Organizational viability
- ✓ Employee or customer satisfaction
- ✓ Costs
- ✓ Process capability
- ✓ Output capacity
- ✓ Cycle time
- ✓ Revenue potential

Begin your project by stating performance problems in quantifiable terms that define expectations related to desired levels of performance and timing, as described in Figure 1-1.

As you define your Six Sigma project, pay attention to issues that warrant a Six Sigma level of effort. Consider problems that

- ✓ Have a financial impact to EBIT (Earnings Before Income Tax) or NPBIT (Net Profit Before Income Tax) or have a significant strategic value
- ✓ Produce results that significantly exceed the amount of effort required to obtain the improvement
- ✓ Aren't easily or quickly solvable with traditional methods
- ✓ Improve performance of a specified metric or Key Performance Indicator (KPI) by greater than 70 percent over existing performance levels

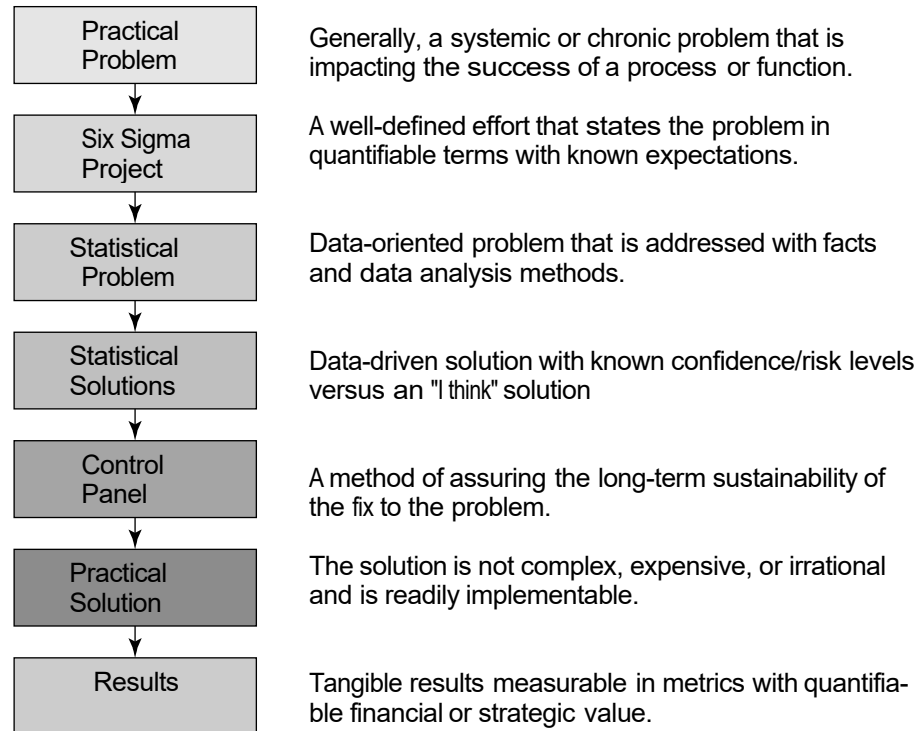


Figure 1-1: Project life- cycle

Transforming the problem

After you've framed a particular problem to become a potential Six Sigma project, the problem goes through a critical metamorphosis — it transforms from a practical business problem into a statistical problem. This way, you can identify a statistical solution, which you'll later transform back into a practical solution. In defining the project, you therefore state your problem in statistical language to ensure that you use data, and only data, to solve it. Using only data forces you to abandon gut feelings, intuition, and best guesses as ways to address your problems.



Important Tip

You can't solve real problems just by throwing time and money at them. You need practical solutions. Six Sigma projects provide practical solutions that aren't complex, aren't too difficult to implement, and don't require extensive resources to affect the improvement.

Knowing your goals and needs

To obtain the maximum benefit from your Six Sigma projects, you must be aware of the strategic needs, goals, and objectives of the business. You should keep those key goals and objectives in mind when you decide which problems you need to solve as part of your Six Sigma projects. Figure 1-2 illustrates this process.

Objective	Phase	Output
Link Six Sigma to business priorities	Recognize ▼	Project identification and launch
Achieve breakthrough improvement	Define ▼	Solution to the problem and a final report
	Measure ▼	
	Analyze ▼	
	Improve ▼	
	Control ▼	
Integrate into day-to-day business	Realize	Implementation and financial benefit

Figure 1-2: Project alignment to business needs

Figure 1-2 is an expanded view of the breakthrough strategy that includes a Recognize step in the beginning and a Realize step at the end. You begin by finding areas of the business that need improvement to meet business goals (Recognize). This approach leads you to determine the specific problems you need to solve to improve performance. Then you determine a statistical solution to your problem, implement the solution, and obtain the subsequent benefits.

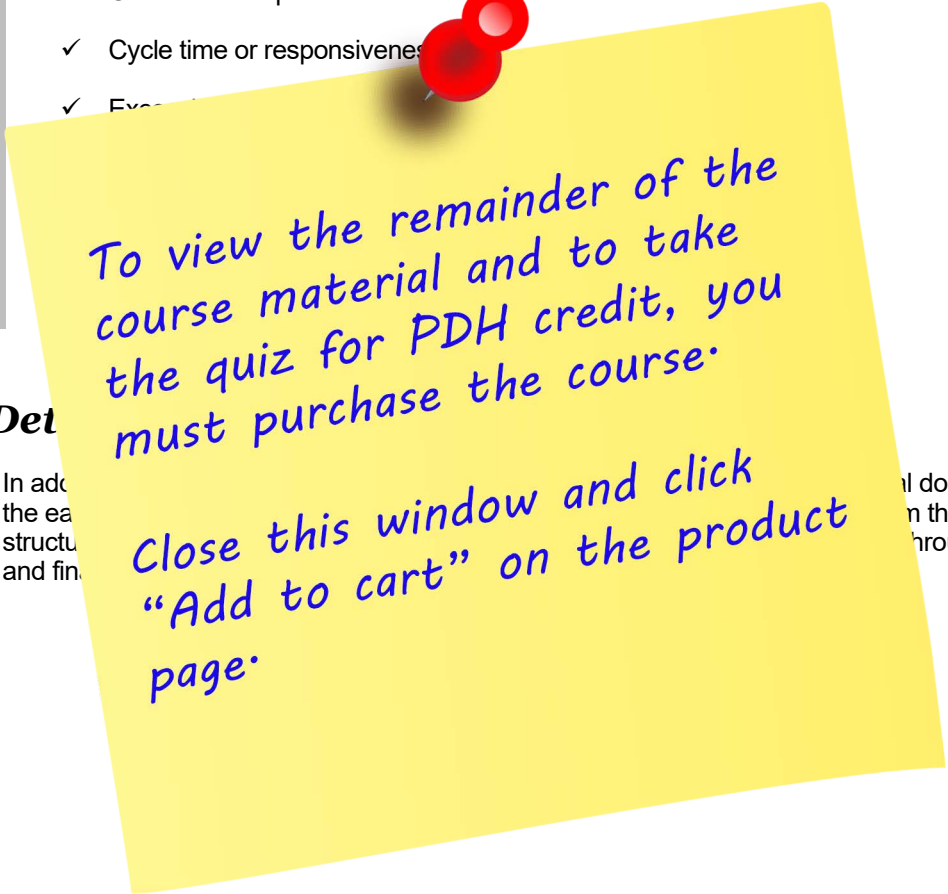


Important Tip

Where to begin? Start by assessing the higher level needs of your organization, using any knowledge obtained from the voice of the customer (VOC) and the voice of the business (VOB). The VOC is all the needs and expectations your customers have for your products and services. The VOB represents all the needs and expectations of the business. The basic idea is to assess both the VOC and VOB to identify gaps — areas where the expectations of the business and expectations of the customer are misaligned.

To help zero in on problem areas, look for themes, such as the following:

- ✓ Accounts receivable and invoicing issues
- ✓ Capacity constraints
- ✓ Customer complaints
- ✓ Cycle time or responsiveness
- ✓ Expenses



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