

DMAIC – A Structured Method For Performance Improvement!

Gerald M. Taylor
Managing Consultant
The Performance Management Group LLC

This news letter is designed for Leaders in the Service Sector of our economy. Whether you are in Executive Management, Quality Improvement, Human Resources or a first or second level manager; if you are concerned with your company's capability to deliver cost effective quality services, this newsletter is intended for you. It will provide you with the critical knowledge and information that will empower you to:

1. design and deploy productive and cost effective management practices that drive the results you want to experience.
2. receive and understand the best practices for service sector companies.
3. guide and plan operational excellence in your area of accountability.

What is DMAIC

The **DMAIC** Improvement model is the generally accepted approach to process improvement for Six Sigma efforts. It is systematic, scientific, and fact based. It is a closed loop process that eliminates the root causes of inefficiencies and improves a company's ability to remain #1 in the eyes of its customers. The acronym, DMAIC, stands for how a Six Sigma team attacks a problem by: **D**efining the problem, **M**easuring its impact, **A**nalyzing its root cause, implementing an **I**mprovement, and **C**ontrolling the process improvements.

The remainder of this issue will provide a brief overview of each stage of the DMAIC process.

Define

The purpose of the *Define* stage of the DMAIC process is to create and establish a *clear and compelling reason* for improving a service or a process. Often times a compelling issue may be obvious and, by virtue of its impact on the business, may cause a Six Sigma project to be chartered. A Six Sigma project may also be chartered due to an Executive's desire to achieve a strategic objective. In either case, a Six Sigma team can get started by conducting an assessment of the situation. The assessment may involve:

- Examining department processes and indicators.
- Interviewing internal and external customers.
- Reviewing departmental audits and reports.
- Identifying performance gaps or;
- Displaying the financial impact of a problem.

Through the assessment a team can uncover customer requirements not being met, inefficiencies, rework and waste. These issues can be documented as an input into a business case. The business case is the work product of the Define stage and is a living document which acts as the project diary for the Six Sigma effort.



Measure

The purpose of the *Measurement* stage is to factually understand the nature and extent of the problem. Additionally, this phase provides the ground work for the "Analysis" stage of the project by narrowing the problem to its major factors. Major activities of this step supports fact based decision-making by gathering data and obtaining a full intellectual grasp of the situation; the activities include:

- Planning and executing a professional data collection effort.
- Accounting for the number process defects.
- Identifying and displaying process variation.
- Measuring and baselining process performance.
- Compiling and calculating the problem's financial impact.

As a result of this phase, the Six Sigma Project team will have validated the problem defined in the prior step, refined the goal of the project team, measured key process inputs and outcomes, and compiled a preliminary financial impact analysis.

Analyze

The purpose of the *Analyze* phase is to identify and verify the root cause of the problem. In Six Sigma language we want to know, "What is the special cause that is disrupting our business?" In this phase, a team must collect and analyze relevant data to identify causes and confirm their impact. Major activities in this phase involve:

- Hypothesis testing and validation.
- Correlation analysis.
- Cause and effect analysis and verification etc....

What a team must carefully do is identify the primary "agent or force" that is producing an error, defect or effect. What a team must **not** do is identify symptoms and "jump" to solutions as if they were remedying root causes.

Improvement

The purpose of this phase is to generate and implement viable solutions that will rid the process of root causes. These solutions must be effective at performing corrective action on special causes and feasible enough to create a favorable cost benefit position. A project team may benchmark other companies, conduct specially designed experiments, or brain storm and test home grown solutions.

Control

The purpose of the control phase is to maintain control of your implemented solution and control future process performance. At this stage the team may install specialized control charts and SPC methods to track process outcomes, monitor process stability and cost recovery of the solution. Project teams also develop standard operating procedures (SOPs) reflecting the process improvement change(s).

There is much more to the DMAIC methodology than this article has described. For more information regarding Six Sigma please feel free to contact TPMG Directly at www.helpingmakeithappen.com.

Next Issue: The Six Sigma Project Team

