QIT Newsletter

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Return to the Core of a Quality System *(published in ASQ website at August 12, 2002)*

"Six Sigma quality, the closest thing to a management fad to have surfaced since the dotcom bust, has passed its peak," a leading financial newspaper argued several weeks ago. "If Six Sigma continues to follow past patterns, the next stage will be disenchantment, as companies find that the technique often achieves less than expected."

Whether this statement is true or false is not a debate here. More interesting is the assumption behind the statement: that management trends and quality concepts come and go, and no matter which ones are in at the moment, they all must serve a criterion—**profitability.** Any quality assurance system must align with this credo.

Let's put the knotty statistics, procedures, theories, charts, and graphics aside, and instead look at the core of a quality system. To start with, from a cost-management point of view, the quality assurance function is a cost center, not a profit center. To serve the corporate core ideology of profitability, a pragmatic quality assurance system has to be built and maintained with the lowest cost possible and accomplish two basic functions:
Monitor performance—distinguish the good and the bad and report deviations.
Drive continuous improvement—provide information on current performance and root causes to guide continuous improvement initiatives.

Fig. 1 A Quality Assurance System Design

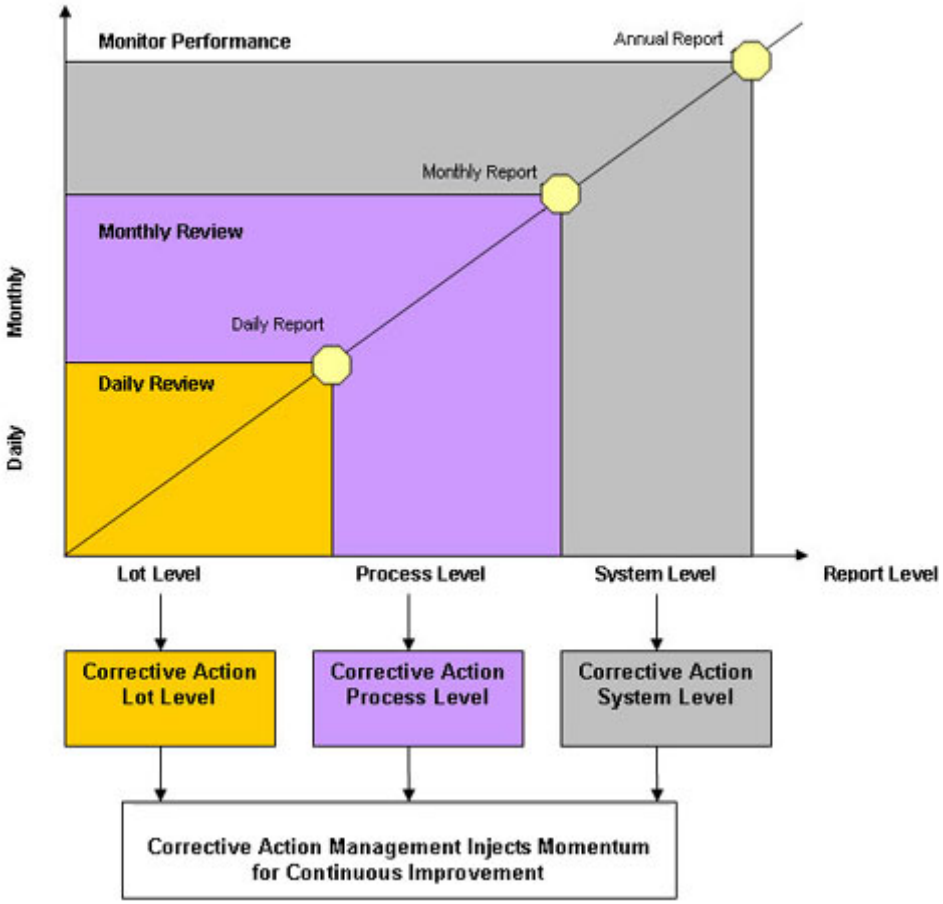

Figure 1 illustrates a design of such a quality assurance system. To monitor operational performance effectively throughout the organization, the performance review is divided into three levels based on organizational hierarchies and time frames. To inject momentum into continuous improvement activities, each review should define the weakest links and issue corrective action requests to resolve weakest links.

In this design, each of the three levels of performance review naturally implies a focus for corrective action:
First level—daily review of work order/lot performance. In Japan, this is a morning routine. In five-minute pre-production meetings, supervisors highlight the major problems of the previous day, and operators discuss how to prevent them in the future. Focus of corrective actions: improvement of operators' routine activities.
Second level—monthly review of summarized process performance. The typical application is a monthly operational performance review involving a cross-functional team of managers/directors. Focus of corrective actions: process improvements.
Third level—annual or quarterly review of system performance. Best practice is the annual/quarterly performance review or a scheduled failure modes and effects analysis (FMEA) review. Focus of corrective actions: improvement of system efficiency based on long-term performance and lessons from past failures.
Implementing such a design sounds undemanding; however, the real challenge is to execute the theories with a reasonable cost. Most of the time, management fashions fade away because of digressions, high implementation and maintenance costs, and "less than expected" outcomes.

Lately, I came across a service-sector quality system in need of improvement. To expedite the organization's order-handling process and improve accuracy, the quality manager initiated a project to collect data on total time spent versus standard time. Periodically, the total lost-time was calculated as an indicator of process performance. Can you see what is going wrong here?

Let's put the question in another form, and then we will be able to see the problem more clearly: "Is the total lost-time adequate to drive and direct

improvements on reducing processing time and improving order accuracy?" Obviously, the answer is no! More process information is needed to identify the root causes in order to make improvements. This is a classic example of system implementation wandering from the core of a quality system, which is to drive improvement.

So let me reiterate: to preserve the core—driving improvement—the monitoring system shall focus on defects and root causes rather than the outcome of a process.

A simple and easy way to maintain optimal implementation and maintenance cost is to employ a good software package to manage the whole system. However, selecting the wrong software could allow minor problems to turn into disasters, increasing your costs even more.
Here are some practical rules for selecting a good software package:

- Above all, the package should be a database instead of a single-purpose application. Many SPC packages available on the market are single-purpose applications; they primarily focus on statistical calculations, and they are not capable of easing the everyday data-crunching tasks of data retaining and summarizing and performance reporting and charting.
- The software package should have the capability to store and retrieve data such as process input, defect quantities, defect descriptions, cycle time, etc.
- The software package should have the capability to summarize data automatically and generate performance reports on the three performance review levels mentioned above.
- The software package should have corrective action issuing and management capability.
- Incorporating Quality Knowledge Base capability will enable quality professionals to learn from past failures.

If Six Sigma is to have a lifespan that outlasts management fads and quality trends, it must continue to serve the ultimate purpose of profitability. This means driving improvement by dealing with root causes. Granted, Six Sigma does perhaps start with a stronger focus on process and root cause analysis than many previous initiatives. Nevertheless, some management of the overall implementation—whether by using a software package or another means of monitoring and driving improvement—is the best way of ensuring that it stays true to its focus.

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News and Events

NEW **Production Quality Management System V2.0** is available for 30-day free trial; and the new **step-by-step User's Guide** is also ready online. New features and improvements include:

- **Improved calculations** now is able to covert DPMO to Sigma Level when DPMO is greater than 560,000.
- **Build-in Corrective Action Management functions** allow user to issue Corrective Action Request using build-in ISO9000 form.
- **System Map provides a clear overview** of the program and provide user with short-cut access to major functions.
- **Visualized process mapping function**.
- **Built-in Six Sigma Calculator.** Improved user interface.
- and many more...

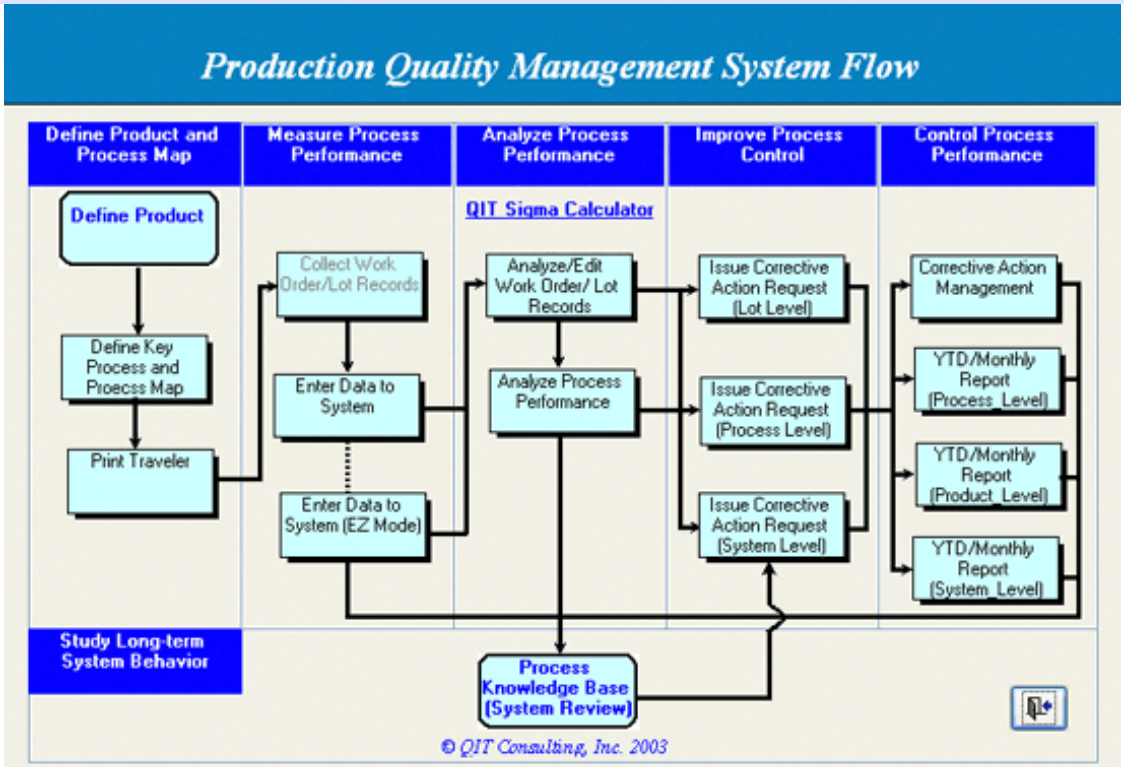
NEW **QIT Sigma Calculator** is available for download. It is FREE !

NEW **step-by-step User Guide** is online. Features of QIT Sigma Calculator include:

- Calculations of DPU, DPMO, Yield, Sigma Level and Cpk.
- Special capability to calculate Throughput Yield, Rolled Throughput Yield for a multi-step process.
- Capability of saving user-entered dataset for future reference.
- *Importing and converting dataset from Excel.
- *Downloading results to Word or Excel.

**-Not include in free version. Licensed version only.*

New Products at a Glance - Production Quality Management System 2.0



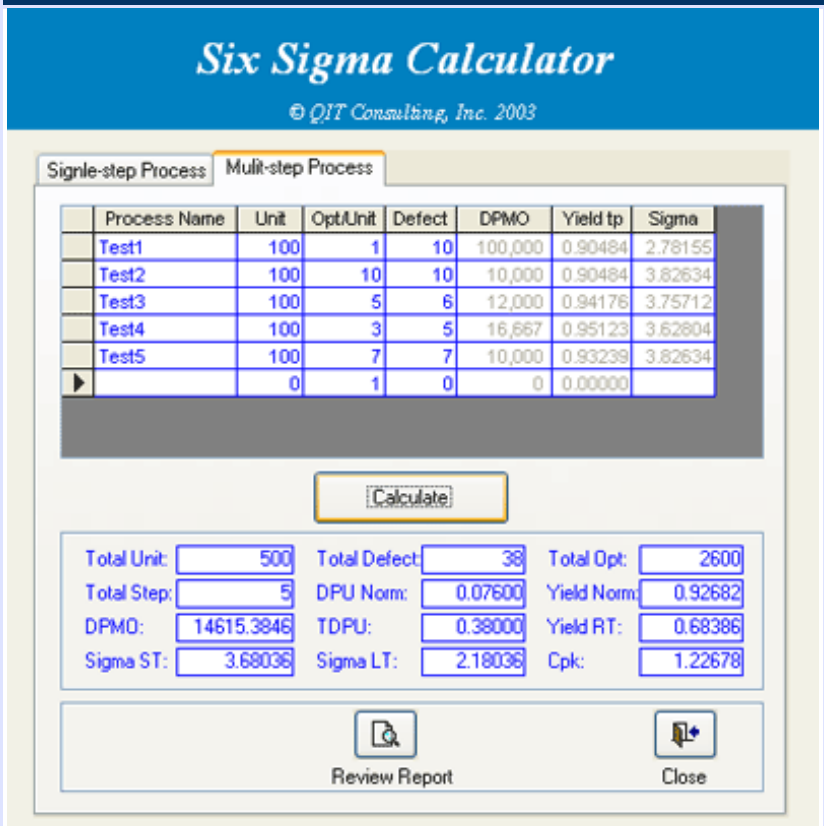
For the users who don't have a Six Sigma program, the Six Sigma measurements reports will give them the Six Sigma perspective **(Yield, DPMO, Cycle Time, Sigma Level, and etc.)** of the production performance Six Sigma training or Black Belt.

For the users who have Six Sigma Program, the program will significantly ease the Six Sigma reporting process by automatically generating reports and charts on Overall, Product, Process and Work Order Level.

The unprecedented benefit of this program is that the Process Knowledge Base function will show a clear picture of past failures and key problem drivers, and give users a chance to understand the past problems so that users can prevent the same problems from happening again.

More details...

QIT Freeware - QIT Sigma Calculator



This application is a freeware, which provides a handy tool to calculate Six Sigma Measurements such as

- DPU,
- DPMO,
- Yield,
- Sigma Level
- and Cpk.

For single-step process – Calculator will calculate

- DPU,
- DPMO,
- Yield,
- Short-term Sigma
- Cpk.

For multi-step process - Calculator will calculate

- TDPU,
- DPMO,
- Throughput Yield (Yield tp),
- Rolled Throughput Yield (Yield rt),
- Long-term Sigma,
- Short-term Sigma
- Cpk.

Special Features:

- Save entered dataset for future reference.
- * Upload and calculate dataset from Ms Excel.
- * Output calculation to Ms Excel or Word.

**-Not include in free version. Licensed version only.*

More details...

Subscription and Un-subscription

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