QIT Newsletter

Printer Friendly Version

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Editor's Recommendation

Production Quality Management Program in Service and Manufacturing sectors.

- Powerful operation performance reports on daily, monthly and YTD basis.
- Integrated Corrective Action (CA) management functions with ISO9000 Corrective Action Request form
- Six Sigma measurements (Sigma Level, Cycle time, Yield etc.)
- Process Knowledge Base

Quality Information System - An Effective Way to Reduce System Maintenance Cost

In last month's feature article, we discussed that a Six Sigma program must serve the corporate core ideology – profitability; the major functions of a quality system are monitoring performance and driving improvement; and we also concluded that using a good software package to handle quality information will significantly reduce the system implementation and maintenance cost. This issue and the next several ones will be devoted to the topic of how to make these theories work.

Recently I have learned that although most of the quality professionals are experts at the SPC software and Microsoft Excel, not all of them are processing the quality data in a systematic way by utilizing the concept of Quality Information System. And most of the time, quality professionals tend to focus on reducing the cost of defectives, and neglect the hidden cost of processing quality information – maintenance cost of a quality system.

So what is a Quality Information System (QIS) and what are the differences between QIS and SPC software? How does a poorly designed Quality Information System lead the elevated quality cost and recoil the cost saving from the improvement initiatives?

To answer these questions, let me start with a basic introduction of an authentic QIS. Similar to a Management Information System (MIS), a QIS contains processes and subsystems that can store and process large amount of data and provide intelligence information to help management control business performance, and direct business operations.

Different from a MIS, a QIS specializes on handling quality related data to drive continuous improvements. A well-developed QIS can

- collect and share quality information from manifold sources within the organization
- define key the problems and track the corrective actions
- "learn" from the past failures and to prevent the problem from reoccurring
- support and push forward the organization-wide continuous improvement

MRP/ERP type of software, such as SAP, BPCS or Oracle, are part of an MIS, but they are not QIS. As far as quality assurance concerned, in a MRP/ERP system, only the results of a process will be collected, and many qualitative aspects of the operational system and the process such as the root

causes and the description of non-conformance are not considered. A critical drawback of this kind of software is that this kind of software is designed to only monitor the end results of a process, but not to facilitate the problem solving and preventing. Since MRP/ERP applications do not collect and store the information such as root causes and corrective actions to build up the Quality Knowledge Base, they are not smart enough to “learn” and "suggest" to direct quality improvements.

Similarly, the SPC software, such as Minitab, is not a QIS either, since this type of software is designed to accomplish project-based statistical calculations, but not to establish a solid system to consolidate and analyze the quality data from all aspects.

Contrary to MRP/ERP and SPC software, a QIS is a knowledge-based “smart” database. It will take advantage of the information that collected from the process, both quantitative and qualitative to help business identify the improvement opportunities, find out the root causes, build effective corrective actions, and proactively learn form the data and keep the potential problems from occurring.

The graphic on the left illustrates example of such a QIS. This QIS contains five modules.

1) Supplier Management module, consisting Incoming Inspection Management, Supplier Corrective Action Management, and Supplier Quality Improvement Program functions.

2) Advanced Quality Planning Module, storing data of Process Mapping, FMEA, Design Verification, and Control Plan.

3) Performance Monitoring Module, hosting operational data and generating level 1,2,3 performance reports, and Total Productive Maintenance status.

4) Quality Assurance module, managing Voice of the Customer, corrective actions, and ISO9000 procedures and activities.

5) Center of this QIS is Quality/Process Knowledge Base, which will collect knowledge data such as failure modes, corrective actions etc., results of corrective actions to give user a chance to study the system behavior on higher level. Besides, the Quality Knowledge Base will feed historical summaries to other modules.

To help business implement a pragmatic QIS, we at QIT Consulting have developed two programs to facilitate the implementation of Supplier Management Module and Performance Monitoring Module. Find out more details of these programs and the services QIT consulting provides at http://www.QITConsulting.net

In the next issue, we will contemplate on what kind of information that need to be collected; what kinds of statistics that need to be calculated to make the system "smart enough" to direct continuous improvement; and how to use QIS to enhance the results and compensate for the shortcomings of the Six Sigma projects.

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News and Events

HOT! **August 12, 2003, ASQ Six Sigma Forum,** one of the most widely read and well-known Six Sigma Forum in the industry, featured QIT's article on to have a lifespan that outlasts management fads and quality trends, Six Sigma must continue to serve the ultimate purpose of profitability.

The article, Return to the Core of a Quality System by Logan Luo, was published in ASQ Six Sigma Forum's website and its August 2003 "InterNetworking" newsletter.

HOT!See who has subscribed to our Newsletter, downloaded and tried our most popular programs:

- **GE**
- **3M**
- **Landrover**
- **Honeywell**
- **Pfizer**
- **Allstate Insurance**
- **Tyco Healthcare**

and many more. Join us now!

HOT! **QIT's new services :**

Business Process Engineering Consulting

- Business process assessment and improvement
- Cost and lead-time reduction
- Effective business performance monitoring
- Knowledge Management

More Details...

Quality Assurance Consulting

- Pragmatic Quality System
- Quality Information System (QIS)
- Supplier Quality Management

More Details...

Database and Application Design

- Supplier assessment and management
- Engineering/ Quality data management
- Global Corrective Action management
- Departmental and individual productivity improvement

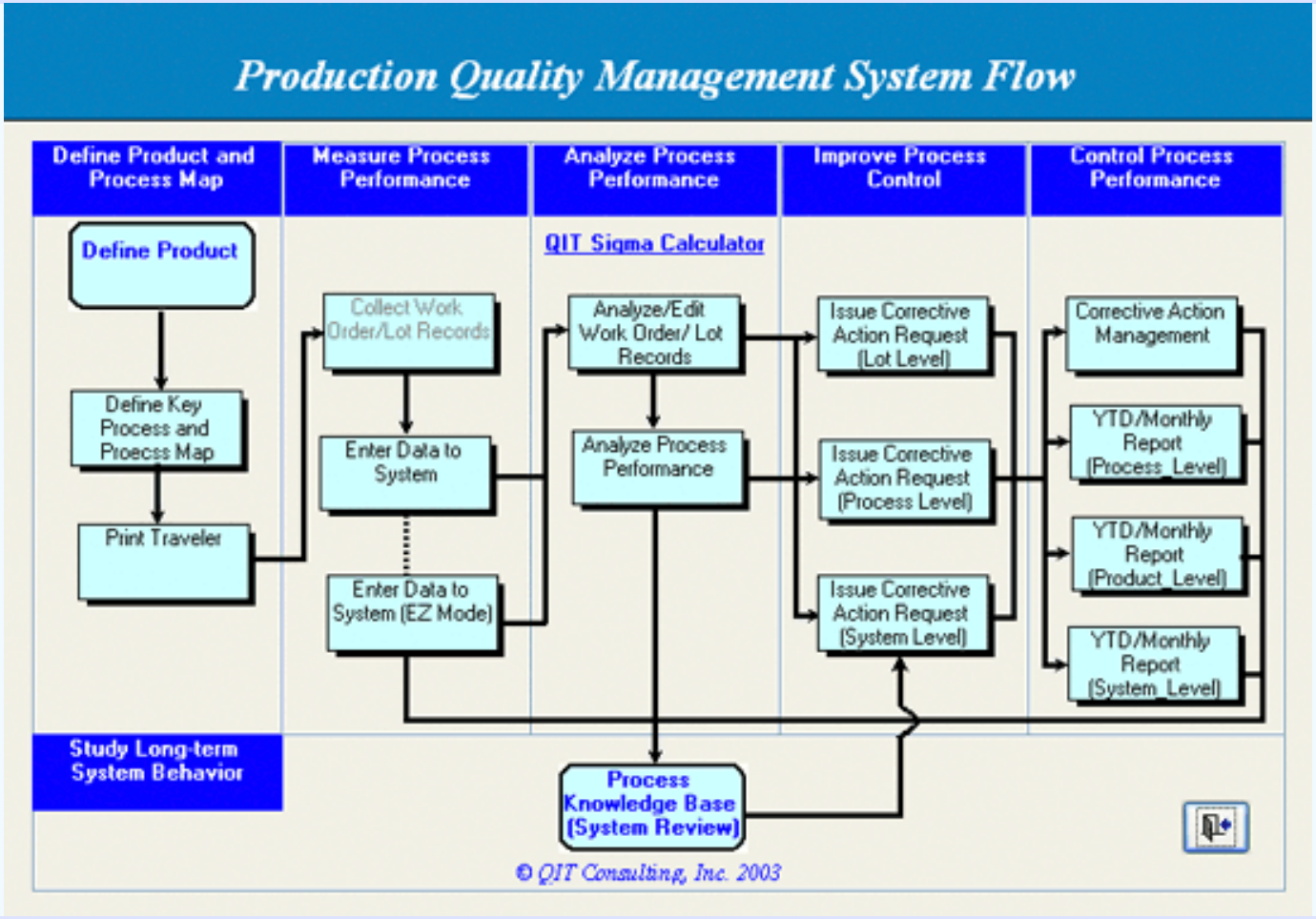
More Details...

Customization of QIT Product Family

- A cost-effective solution
- Tailor-made functions, reports and charts
- More sophisticated network solution

More Details...

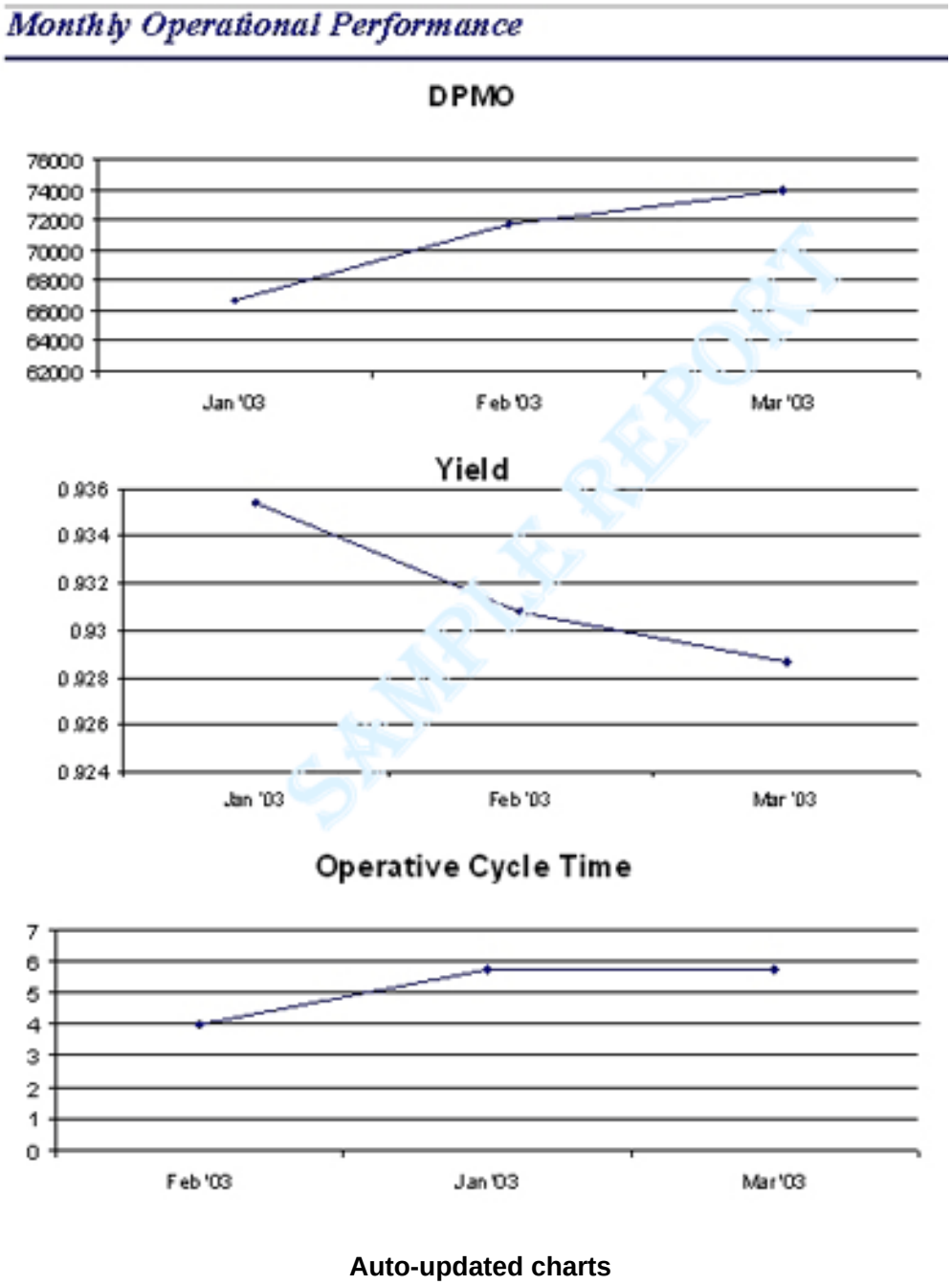
Production Quality Management System in Service Sector



Background:
Increased competition, strengthened regulatory standards, and changing customer demands have put pressure on the companies in service sector to develop creative and cost-effective business strategies to improve Customer Relationship Management.

To help our clients to achieve these targets, we at QIT have recommended several companies in the service sector to adopt the Production Quality Management System program to create quality improvement projects with a quick turnaround time.

Potential Users:
- Call Centers handling customer order/ complaint processes
- Insurance company keeping track of errors in each claim.



Auto-updated charts

Industry Challenges:

- Reduce complaints/inquiry responding time.

- Improve order/claim processing accuracy.

The Road Map to Success:

1) Use this program to define a Process Map

2) Use built-in function to print out Traveler to record defect and operational time.

3) Use integrated reporting and charting functions to report performance in DPMO, Sigma Level and Cycle Time

Key Benefits:

1) Able to generate daily and monthly performance report and charts on

- Sigma level
- DPU
- DPMO
- Cycle time

2) Review monthly performance reports and identified problem areas and issued CAR.

Critical Success Factors:

New user from service sector may need to understand the concepts on

- process mapping
- Defining opportunity for a defect
- collecting data using Traveler

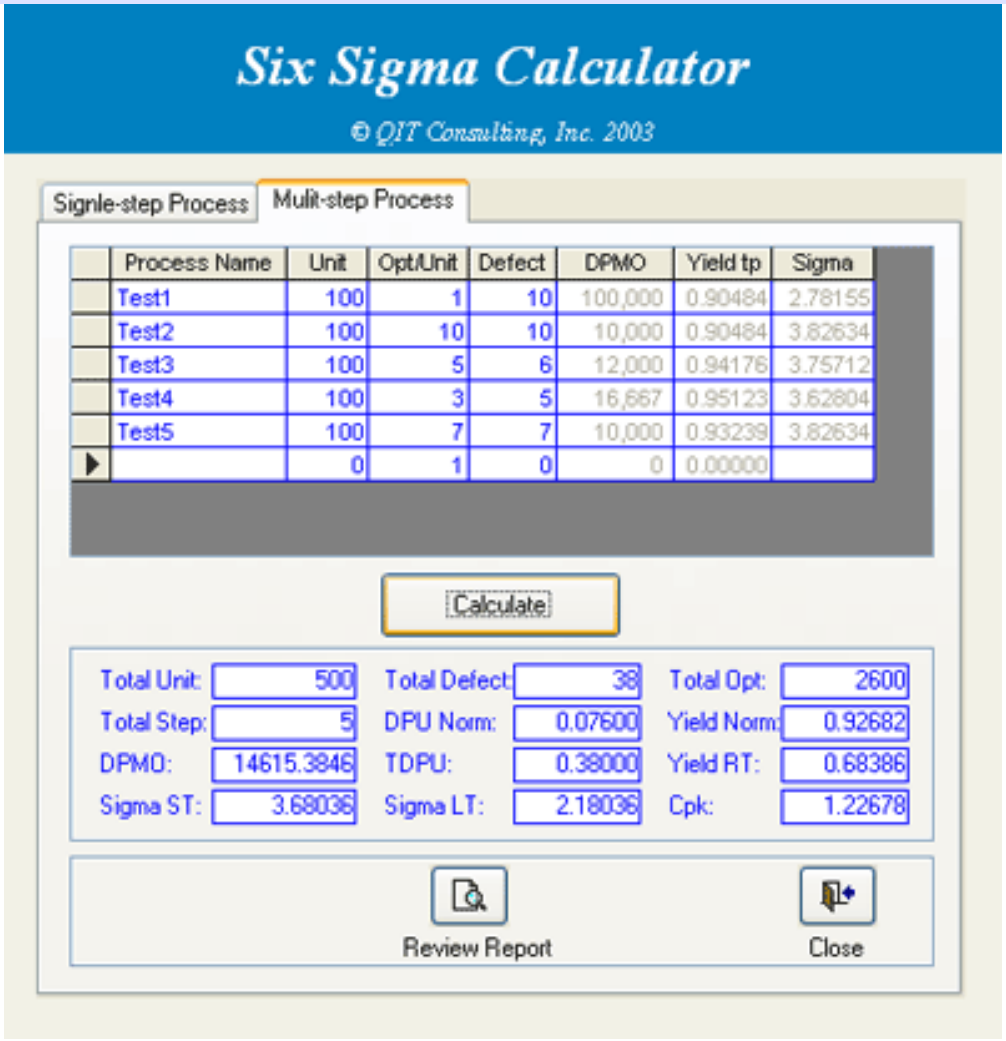
The functions that people love the most:

- Six Sigma measurements
- Cycle Time report,
- Auto-updated charts

>> More details about this program...

Note: This case study is prepared based on the recommendations that QIT Consulting gave to the clients. But it does not necessary mean the actions have been taken. The end results are projected results.

Production Quality Management System in Manufacturing Sector



Built-in Sigma Calculator

Background:

Under today's slowly recovering economy, similar to the companies in service sector, companies in manufacturing sector also need to be mindful and provident for the ambiguous future in one hand, and be ready for the increasing customer demands on the other hand.

To help business in manufacturing sector to cope with these challenges, to achieve a cost-effective cost reduction project or a Six Sigma project, and to provide insightful reports to fulfill customers' demands, we have recommended two of our clients to use QIT's Production Quality Management System.

Potential Users:

- Appliance Manufacturer
- Inject molding
- Medical device
- All type of assembly lines and work cells

Industry Challenges:

- Reduce cost of poor quality
- Reduce lead-time
- Effectively manage CAR and make quick quality improvement
- Efficient quality system to attract potential customers

The Road Map to Success:

1) Define process map and use PFMEA to identify key process, key parameter, and key characteristic.

2) Print out Traveler to collect production data, defect, and production time.

3) Issue CAR in ISO9000 format and manage CAR progress/status.

4) Use Knowledge Base to support/revise DFMEA and PFMEA.

5) Post daily reports and charts to each production line and work cell.

Corrective and Preventive Action Request (ICAR)

ICAR Number: ICAR-006 Issue Date: 12/28/2002

Product and Process Info

Product #: Process #: Engineering Rep:
Product Name: Process Name: Quality Rep:
ICAR Type: System Level Production Rep:

Problem Symptom and Failure Mode

Describe Problem:
5S condition is poor

Failure Mode:
(1) Improper Procedure/Sequence

Preliminary Study and Action Plan

Preliminary Root Cause:
(1) Operator did not follow 5S rules

Corrective and Preventive Action Plan:
(1) Conduct 5S training / Rep: Jim Smith / Due Date: 3/1/20..

Action and Effect Verification

Real Root Cause:
(1) Supervision is no...

Implemented Action and Verification:
(1) Conduct further training / Date: 3/15/2002 / Verification: training conducted. It is a continuous effort to check 5s condition.
(2) Develop check sheet. Supervisor checks 5s condition every day according to the check sheet / Date: 3/1/2003 / Verification: 5s condition improved, but operators have negative feeling about 5s

Status

ICAR Status: ☑ (Closed) ICAR Close Date: 3/20/2003

BUILT-IN CAR FORM

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Built-in ISO9000 Corrective Action Form

6) Use built-in reports and charts for management review and monthly operation review.

Key Benefits:

1) Generate daily report, feed back performance to front line operators, and direct Kaizen activities in shop-floor.

2) Use built-in reports and charts to establish a “visual-control” working environment.

3) Provide quantitative data and historical records to support and revise FMEA.

4) Issue CAR in ISO9000 format and monitor CAR status and effectiveness.

5) Reduce report preparation time by 90%.

Success Factors:

1) New users from this sector need to understand the concept of Opportunity for a Defect.

2) The front line operators need to be taught in the meanings of Six Sigma Measurements.

3) For those productions are not driven by Lot Number or Work Order Number, use the Date as a Work Order Number in stead.

The functions that People love the most:

- ISO9000 CAR form and CAR status monitoring features
- Three level reports
- Auto-updated charts
- Cycle Time report
- CAR status report
- Process Knowledge Base

More details about this program...

Note: This case study is prepared based on the recommendations that QIT Consulting gave to the clients. But it does not necessary mean the actions have been taken. The end results are projected results.

Subscription and Un-subscription

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