

# Quality Quest

**Permanently embedding continuous improvement in your organization.**

Qualitiqua

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## Cost of Quality

A traditional cost accounting views costs as either variable or fixed, billable vs. non-billable etc. This method of accounting may not be very useful when focusing on reducing cost by reducing unnecessary work across an organization. A more useful concept is the cost of quality.

The cost of quality has three main components. They are the costs of: preventing problems, appraisal, and failure (doing things over again because they were not done right the first time). To implement a cost of quality system internal data collection system

needs to be modified. It needs to collect data on waste for processes that run across the organization and report it as part of the cost of quality.

Many organizations collect data about the amount of scrap made in manufacturing; this is easy to assess. Little data is collected on work that is redone because of errors in design, purchasing, sales or other parts of the organization not involved in manufacturing. These extra costs can put an organization at a competitive disadvantage because prices will have to be higher to make the same level of profit.



Quality helps keep costs down.

Progressive organizations found this previously unmeasured cost can be much larger than the cost due to manufacturing scrap.

The cost of quality system should be oriented to track work done across the organization because work is usually done across, not up and down, an organization.

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## Beyond conformance

The government regulates many industries. For many people in this situation quality is often defined by meeting the regulations. Conformance is the norm.

Conformance to standards is fine because it ensures essential data are fully and accurately collected before

they are used for decision making. It does not address the question of how efficient or effective the organization is at collecting and managing the data.

To ensure data are efficiently collected organizations can move beyond compliance and toward

continuous improvement. With the move to continuous improvement organizations will become more effective as well as meet regulations and standards.

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### Special points of interest:

- The cost of quality can be better managed.
- 80% of life cycle costs are determined in the design phase.
- Moving beyond conformance

## Adding Value with Quality

Progressive organizations, like yours, know that improving quality will lower internal costs and provide better products to customers, thereby improving market position. In modern organizations quality goes beyond complying with standards and regulations. Quality is achieved through a never ending process of continuously improving the organization.

A quality improvement system, for all processes within the organization, will get everyone involved in quality. Improving processes will:

- Reduce process cycle times due to lower labour content,
- Lower unit labour cost occurs because of less rework and other undesirable activities,
- Allows your organization to either reduce the prices to your customers thereby allow-



Improvement team in action

ing volume to increase or keep the price the same and increase profit.

Either way the customer wins and you win because the customer gets a better product at the same or lower price and you have increased profit. With increasing volume and market share your position in the market place is better assured and more jobs are provided. Improving quality adds value for the customer.

Top management provides quality leadership. A common way to provide leadership is to establish a quality council. The council is made up of directors and senior management. The council has the following tasks:

- Establish strategic quality goals and objectives,
- Identify processes in need of improvement; work with eve-

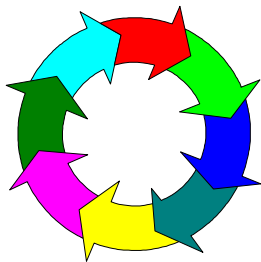
ryone in the organization to identify improvement projects,

- Champion the quality improvement system,
- Develop a training program for the quality system,
- Ensure staff have the training to work in a team environment,
- Ensure improvement teams have the resources to carry out their mandate,
- Establish improvement teams,
- Have the teams find ways to improve processes,
- Review the recommendations of the improvement teams,
- Implement the recommendations of the improvement teams, and
- Continuously seek to improve the organization.

## Designing for quality

Quality improvement affects the design process because a product that is poorly designed or difficult to produce will not be competitive in the market place.

The design process starts with determining customer's needs and expectations. Customer needs are often only a marketing and sales concern. Making sure the needs are passed onto the designers and production staff is very important because the people who design and



Design cycle management

make the products will have a full understanding of what they are to produce.

A very effective method of assuring marketing data are passed on to all who are affected is concurrent engineering. With concurrent engineering, a team consisting of all the stakeholders in the design process give inputs to the design. Stakeholders include at least:

- Marketing and sales,

- Design and development,
- Engineering,
- Manufacturing,
- Quality Control and Quality Assurance,
- Purchasing,
- Shipping and handling, and
- Finance and accounting.

The starting point for concurrent engineering is a list of customer's needs and expectations. At the end of the process the quality characteristics to be assessed during

## Cost of quality (cont.)

This is contrasted with conventional costing system where costs are assessed vertically.

Some examples of cost of quality items follow.

Prevention costs include training, and planning. An increase in planning is often associated with a reduction in the cost of appraisal and failures. The cost reduction comes about because of reductions in errors due to better training and bet-

ter management of resources. Less errors leads to less scrap, rework, inspection, test, etc. Many organizations need to spend more time on prevention; these costs are often poorly tracked.

Appraisal costs are usually the costs associated with inspection, production testing and quality control. In some industries these costs can be quite high. Reducing them will go a long way to improving profitability. Data for these

activities are often available.

Some examples of failures are: redesign, employee turnover, engineering changes, recalls, rework, and repair.

With a cost of quality system in place your organization can have a better tool to ensure quality products and services are delivered to customers at a price they can afford.

## Designing for Quality (cont.)

production are identified and the processes to monitor them described.

A useful tool to record the design and assess the relationships between different parts of the design is Quality Function Deployment. QFD is a powerful tool that can prove a design meets customer's needs and expectations before the product is manufactured and presented to customers.

A system that designs for quality

has the following characteristics:

- Directly involves all the people designing, or using the output of the design process to ensure customer's needs and expectations are met,
- Reduces the design cycle time because of better planning,

- Reduces design costs because design labour content is lower, and
- Reduces cost for the customer because of better life cycle planning.



Quality Function Deployment

**Quality products and services meet or exceed customer's needs and expectations.**

## Constancy of Purpose

To implement a quality system, or program, constancy of purpose needs to be maintained.

Constancy of purpose is not doing the same things day after day, it is rather the quest for continuously improving the organization. Improvement will lead to improved customer satisfaction.



Consistently moving in the same direction

Constancy of purpose has many benefits. They include:

- People working in the organization have a better sense of continuity,
- Consistently providing customer satisfaction leads to increased market share,
- Fewer mistakes are made because the direc-

tion of the organization is consistent from one day to the next,

- People feel free to make improvements, and
- There is less internal conflict because people know how they fit in.



**Qualitiqua**

Business Address  
159 Stillview Road  
Pointe Claire Québec H9R 2Y1  
Canada  
Phone: (514) 694-2830  
Email: [info@qualitiqua.com](mailto:info@qualitiqua.com)

Price: \$4.00

**We're on the web at  
[qualitiqua.com](http://qualitiqua.com)**

**Working together we enrich each other.**

*How can we help?*

*It is our belief that the best way to ensure a strong market position is by continuously improving quality.*

*Qualitiqua is dedicated to providing organizations with the ability to continuously renew themselves through the application of tools from the quality field.*

*We have the ability to provide organizations with coaching on leadership and a wide range of tools to improve quality. These tools range from teaching people to work in teams to modern scientific methods and benchmarking.*

#### Services offered

Quality leadership and strategy (directors and senior managers)

Training (introductory, intermediate and advanced)

Facilitation

## Brief History of Quality

Modern quality control started out as testing or inspecting products to assess conformance to standards. Pioneers in the field soon noticed that a lot of problems with quality originated upstream from where the inspection was done. They observed that it would be more economical to not have problems occur in the first place than to have them found at the end of the production cycle.

With this observation the idea of continuous improvement as a major part of the quality system was put forward. With processes are measured and improved to reduce the amount of defective product. Less defective product lowers costs and reduces delays, leading to a better market position and profitability.

The ideas of these pioneers were fur-

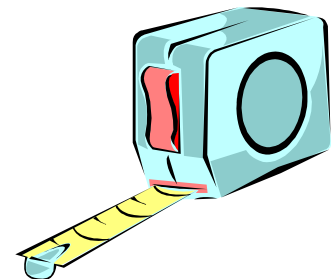
ther developed and successfully used during the Second World War.

After the war some North American companies started continuous improvement programs that were very successful.

Soon these ideas were transplanted to Japan. There, senior managers saw the advantages of continuous improvement and implemented. Some companies were very successful at implementing continuous improvement, becoming world market leaders.

Over the year's continuous improvement continued to flourish in North America under new banners. A few years ago the idea had the title Total Quality Management. Today Six Sigma is the banner.

In today's competitive environment, where there is serious quality competition, companies need to make sure their quality system is up to the task. Committing to continuous improvement can go a long way towards having an up to date quality system.



Start assessing quality