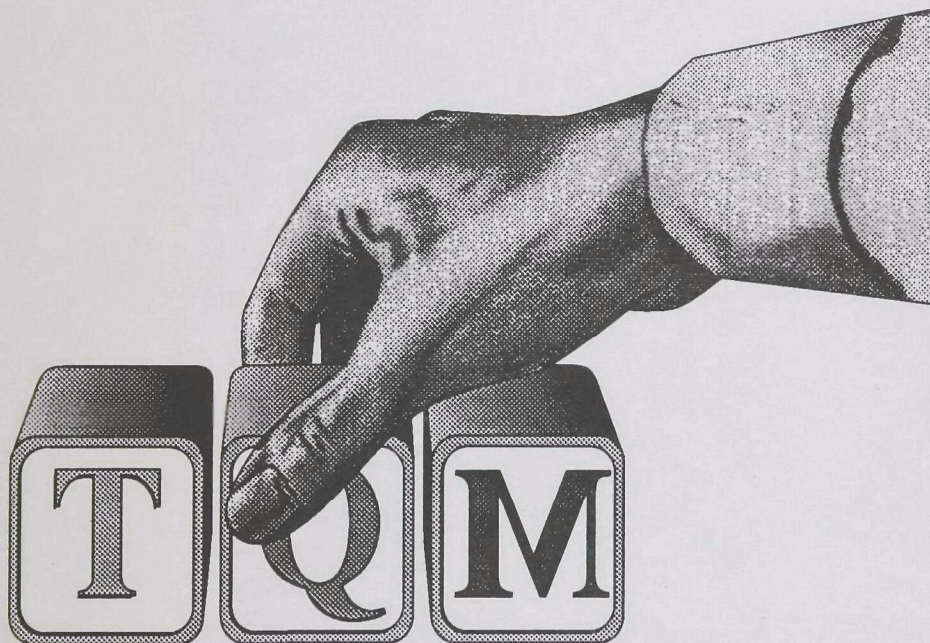


The Executive Course on Quality

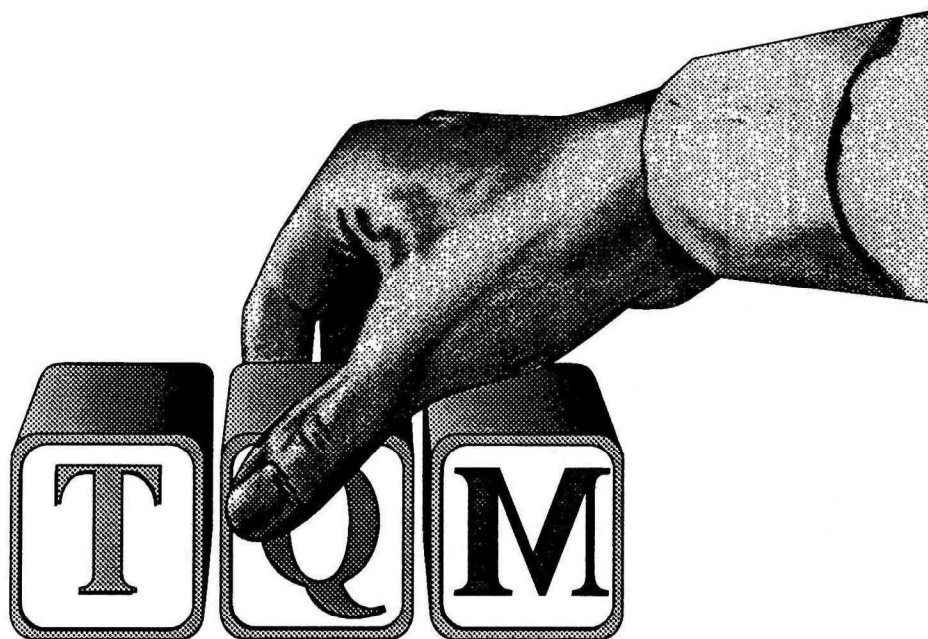


"building blocks to successful environmental management."



Printed on Recycled Paper

The Executive Course on Quality



" building blocks to successful environmental management."



The Environmental Protection Agency has printed this material under a licensing agreement with Organizational Dynamics, Inc. (*contract number 68W1-0036*).

First Printing: May 1991

EPA Quality Advisory Group
Office of Human Resources Management
401 M St., SW
Washington, DC 20460
(202) 382-6241

©1991
by Organizational Dynamics, Inc.
Printed in the United States of America
All rights reserved

The contents, or parts thereof, may not be reproduced in any form for any purpose without the written permission of the publisher, Organizational Dynamics, Inc. (ODI), Twenty-five Mall Road, Burlington, Massachusetts 01803

EPA is faced with mounting challenges, not only nationally, but also worldwide. The pressure on our agency to perform its mission is increasing dramatically, from funding requirements, to public expectations, to competition from environmental groups and other federal agencies. We need not look far to see how numerous laws enacted by Congress have a direct effect on EPA—from the Great Lakes, to coastal initiatives, to the Clean Air Act, to pollution prevention, and many more. New challenges spark hopes and fears in all of us. These times provide us with an opportunity to crystalize and capitalize on our hopes and to communicate and work openly with our fears. Through top-down commitment, bottom-up support, and effective communication side to side across functional areas, our environmental goals can be met. The harnessing of the collective wisdom of all people who are a part of EPA is what *The EPA Executive Course on Quality* is all about.

Addressing new challenges requires planning, prevention, and continuous improvement. Planning can help us sharpen our vision and mission in order to more clearly guide our everyday actions. Prevention of pollution is the preferred approach, while total quality management (TQM) can provide an effective delivery system to make these objectives happen. Meeting new challenges means understanding, on an ongoing basis, what we do and how we do it. We cannot afford the status quo. If we are going to be the leaders in protecting our environment, we must together continuously seek a higher ground.

TQM is not meant to be a process or end in itself. It is meant to be a way of life, a journey in which all employees actively participate in decision making in order to achieve the goals of EPA, increase job satisfaction, and provide results that will maximize environmental health. It frames a context within which people can use a common language to design work processes based on the requirements of both internal and external customers. We need to assess whether each activity we as individuals engage in is adding value to accomplishing our mission. Doing so will help to ensure that the right things are being done in the right ways the first time.

It is people who make our mission successful. Within an environment that stimulates their self-motivation, creativity, and thoughtful sharing of information, employees can take ownership of the processes that will enable us to meet our environmental goals.

Quality must be seen as an actionable strategy for achieving the goals of the agency, from preventing pollution, to benefiting from cultural diversity, to fulfilling the agency's overall mission and vision. To that end, we are providing this course on quality. As a result of this course, participants should acquire

- An understanding of the meaning and fundamental concepts of total quality
- Experience in applying several models or blueprints for implementing TQM
- Practical experience in applying a core set of problem-solving tools required for successful implementation of TQM
- An analysis of their current leadership style and identification of changes necessary to empower employees to participate in the continuous improvement process
- Clarity about their role in TQM implementation and leading the quality effort
- An understanding of the evolutionary phases of quality improvement as well as the interdependent strategies necessary for planning comprehensive TQM implementation

Module One: The Meaning of Quality

Module Two: Identifying the Cost of Quality

Module Three: You and Your Customer

Module Four: Continuous Improvement—Doing Right Things

Module Five: Continuous Improvement—Doing Things Right

Module Six: Leadership

Module Seven: Promoting Total Involvement

Module Eight: Implementing Total Quality Management (TQM)

Reference Readings

Module One

The Meaning of Quality

Contents

The Meaning of Quality

Overview: The Meaning of Quality	2
Questionnaire: The Meaning of Quality	3
Presentation: Approaches to Quality	4
Video: "The Quality Advantage"	6
Presentation: The Foundation and Pillars of Quality	7
Exercise: Rediscovering Core Values	8
Presentation: The Five Pillars of Quality	9
Exercise: Rating Your Organizational Pillars	12
Key Points: The Meaning of Quality	13

Overview

The Meaning of Quality

This module introduces us to the meaning and foundation of total quality management. We shall examine the differences in approaches to quality in a little-q versus Big-Q organization. We shall also learn a new definition of quality that incorporates the five pillars on which a quality organization is built.

Objectives

By the end of this module, you will be able to

- Identify the differences between little-q and Big-Q approaches to quality
- Use a common language to talk with others in your organization about quality improvement
- Compare your understanding of the core values of the agency with that of other participants
- Use the five pillars of quality to analyze how well your organization is currently functioning

Quality is the most important topic of discussion in organizations today. There are probably as many different ideas about quality as there are organizations.

To begin, let's look at what quality means to you. Respond to the following statements:

- | | | |
|---------------------------------------------------------------------------------------------------------------------------------|---|---|
| 1. Compared to French gourmet cuisine, McDonald's food is not high quality. | T | F |
| 2. If we want our products and services to be high quality, we have to spend more money and more time on that goal. | T | F |
| 3. Quality performance must be supported by financial rewards. | T | F |
| 4. Eighty-five percent of quality improvement does not depend on workers. | T | F |
| 5. Cost of quality can be calculated as accurately as cost of production or a person's income tax. | T | F |
| 6. Doing things right is more difficult than deciding what the right thing to do is. | T | F |
| 7. My boss is my most important customer. | T | F |
| 8. Knowing the requirements of my customer's customers is not really useful. | T | F |
| 9. The goal of quality is to meet the customer's needs—no more, no less. | T | F |
| 10. "If it ain't broke, don't fix it." | T | F |
| 11. The highest quality performance is achieved when everyone in the organization follows SOPs (standard operating procedures). | T | F |
| 12. Quality will improve if workers are encouraged to figure out what's wrong and to make improvements. | T | F |

Most organizations say that they are committed to quality. One way to determine the actual level of commitment is to examine the organizational approaches that are reflected in people's behaviors and beliefs. The matrix on the following page shows behaviors and beliefs that will differ between little-q organizations and Big-Q organizations.

Approaches to Quality

Quality Element	Little-q Organization	Big-Q Organization
The definition of quality is	product oriented	customer oriented
Quality priorities are	less important than cost, schedule, and volume	first among equals: "the driver" of business decisions
Business decisions are based on	short-term goals	balancing short-term and long-term goals
Emphasis is on	detection of errors	prevention of errors
Costs are	raised (when quality is emphasized)	lowered (when quality is emphasized)
Errors are understood to result from	special causes (workers making individual mistakes)	common causes (ineffective systems and management practices)
Responsibility for quality belongs to	quality control/ quality assurance, inspectors, and specialists	everyone
Organizational culture tends toward	finger pointing, blame finding, and punishing risk takers	continuous improvement, innovation, and permission to fail
Organizational structure is	hierarchical, bureaucratic, and static	flat, integrated, and fluid
Problem solving is by	those in authority, top of pyramid	teams, all employee levels

Video

"The Quality Advantage"

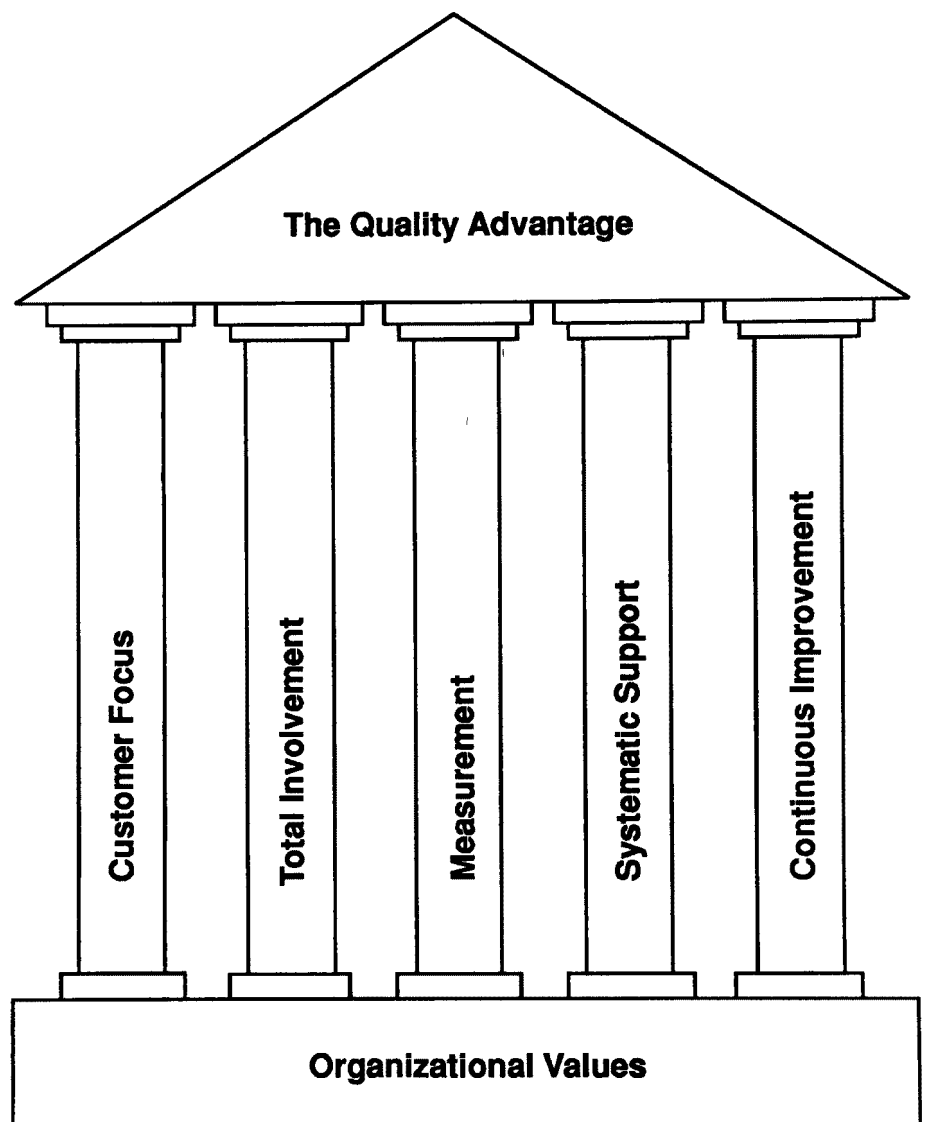
So far, you have considered your assumptions and beliefs about quality as well as the characteristics of a quality organization. This video introduces a model you can use to build characteristics of quality into your organization.

Discussion Questions

1. How has watching the video changed your view of quality?
2. What values do the best organizations have in common?
3. The video describes quality as doing *right things right*. What does this mean to you?

A quality organization has five elements called the *pillars of quality*. These pillars are based on organizational values such as honesty, commitment to customer satisfaction, and commitment to creating an environment in which employees can do their best work.

The Pillars of Quality



Exercise

Rediscovering Core Values

The five pillars are based on a foundation of organizational values. In this exercise you will discuss what you believe to be the core values of your organization.

Directions

- Step 1.** In subgroups, discuss and list what you believe to be the core values of the organization.
- Step 2.** Reduce your list to the five core values you believe are the most critical.
- Step 3.** Select one representative to present your five core values to the larger group.

Definitions

Before you can assess how well your organization is working, you need to understand what each of the pillars represents.

Customer focus (meeting requirements). Within an organization, employees supply products, services, and information to one another. These exchanges link coworkers as internal customers and suppliers. An organization can better meet the needs of its final, external customers when it also works to meet the requirements of its internal customers.

Total involvement (taking responsibility for quality). Quality is not just the responsibility of management or quality control. Everyone in the organization must be involved in achieving quality.

Measurement (monitoring quality). An axiom of quality is, "You can't improve what you don't measure." An organization can't meet quality goals unless it establishes baselines and charts progress against them. Deciding what to measure should be heavily influenced by customer requirements.

Systematic support (leading and reinforcing). All systems in the organization, such as planning, budgeting, scheduling, and performance management, need to support the quality effort.

Continuous improvement (preventing and innovating). An organization needs to do things better tomorrow than it did yesterday and be constantly on the lookout for ways to correct flaws, prevent problems, and make improvements. Through continuous improvements, organizations foster creativity and breakthroughs that increase their credibility with their customers.

Dimensions

Each of the five pillars has been further divided into three component parts, for a total of fifteen specific dimensions, to provide a working model of a total quality organization.

The fifteen dimensions are summarized on the following pages. Each dimension includes a capsule description of its essential elements.

Pillar: Customer Focus

1. *External customer orientation.* Everyone in your organization knows who uses your products and services, and what customers do with your products and services.

-
2. *Internal customer orientation.* Everyone in your organization understands that he or she is a customer and a supplier to others within the organization. Everyone understands that satisfying internal customer-supplier requirements affects the quality of the products or services provided to external customers.
 3. *Trends in customer satisfaction.* Because they understand that the final judge of quality is the customer, employees are concerned with trends in customer satisfaction. The organization places a high priority on being close to the customer and responding to the customer's needs. Employees deal quickly and effectively with customer problems.

Pillar: Total Involvement

1. *Top-down leadership.* A total quality organization is driven by senior management and administered by middle management. Management demonstrates its commitment to quality by educating itself about total quality, providing resources and support to quality activities, and visibly using and supporting the process in its own work. Quality is as important as budget or schedule on the scale of organizational priorities.
2. *Bottom-up employee involvement.* No organization can achieve total quality without extensive employee involvement. Employees at all levels are encouraged to take part in organized quality-improvement activities. Suggestions for improvement from lower levels are given serious consideration.
3. *Side-to-side integration.* There is coordination among work units and across functions. Teams composed of people from different areas tackle common problems collaboratively. External suppliers are part of the quality effort.

Pillar: Measurement

1. *Self-measurement.* Employees are expected to verify the quality of their own work rather than depend on others to inspect for quality. In addition to monitoring their own performance, they also receive regular feedback from their managers. Their teams keep records on their efforts to improve quality.

-
2. *Measures of work.* The organization has a consistent set of quality-measurement standards that are reevaluated periodically. Work groups monitor how well employees follow work procedures. They also track indicators that can give early warning of problems. The organization collects information on the extent to which people make timely corrections.
 3. *Measures of user feedback.* Groups measure how well they meet the needs of those who depend on them. They receive regular feedback from their customers. Problems are reported back to them quickly enough to allow for speedy correction.

Pillar: Systematic Support

1. *Training and resources.* The organization provides the resources and education needed to improve quality. Employees are given the time to be trained, and also the tools and support necessary to apply their new skills to their jobs.
2. *Recognition and reward.* The organization demonstrates its commitment to quality by recognizing and rewarding those who work to improve the quality of products, services, and work processes. Employees who strive for quality have a better chance for advancement.
3. *Policies and procedures.* The rules and procedures by which the organization operates help to produce quality. Obsolete policies, redundant approval steps, and other structural barriers are removed in the interest of customer focus.

Pillar: Continuous Improvement

1. *Prevention and problem solving.* The organization stresses prevention rather than temporary quick fixes, and seeks to learn from mistakes.
2. *Participative management.* All employees are encouraged to discuss work problems in an open way and to participate actively in decisions on how to do things better.
3. *Initiative and risk taking.* Even when things are working well, people are encouraged to make improvements. All progress requires taking calculated risks and creative initiatives. Management fosters a climate in which initiative and prudent risk taking are an accepted and necessary part of organizational life.

Exercise

Rating Your Organizational Pillars

In the previous presentation, you examined the characteristics of the five pillars of quality. Now you will rate the strength of those pillars in your organization and suggest ways to make improvements.

Directions

- Step 1.** For each of the pillars below, mark a line from 0 to 5 (0 = low, 5 = high) indicating how strong you feel this pillar is at present in your organization.
- Step 2.** Present your responses to the group for the creation of combined ratings.

Your Pillars of Quality

The diagram illustrates the five pillars of quality as a classical building. The pediment is labeled "The Quality Advantage". The base is labeled "Organizational Values". The five pillars are labeled as follows:

- Customer Focus
- Total Involvement
- Measurement
- Systematic Support
- Continuous Improvement

Each pillar has a vertical scale from 1 to 5, with tick marks at every integer and half-integer.

Below are some of the key points in this module. Please add your own.

- Quality means doing right things right.
- People behave differently and have different beliefs in organizations with little-q versus Big-Q approaches.
- The five pillars that support quality in an organization are customer focus, total involvement, measurement, systematic support, and continuous improvement.
- The pillars rest on a foundation of core values.
- Everyone in the organization must be responsible for strengthening the pillars of quality.
-
-
-

Module Two

Identifying the Cost of Quality

Contents

Identifying the Cost of Quality

Overview: Identifying the Cost of Quality	2
Presentation: The 1-10-100 Rule	3
Exercise: Using the Cost-of-Quality Iceberg	4
Presentation: Necessary and Avoidable Costs	6
Video: "The Cost of Quality"	7
Presentation: The Quality Grid	8
Exercise: Estimating Your Cost of Quality	10
Key Points: Identifying the Cost of Quality	13

Overview

Identifying the Cost of Quality

In the previous module, we explored what quality means and why it matters. In this module, we will discover the true costs of not doing quality work. Any time the wrong things are done or things are done wrong, there is a cost to the organization. These costs include such things as waste, rework, unnecessary overtime, and job dissatisfaction.

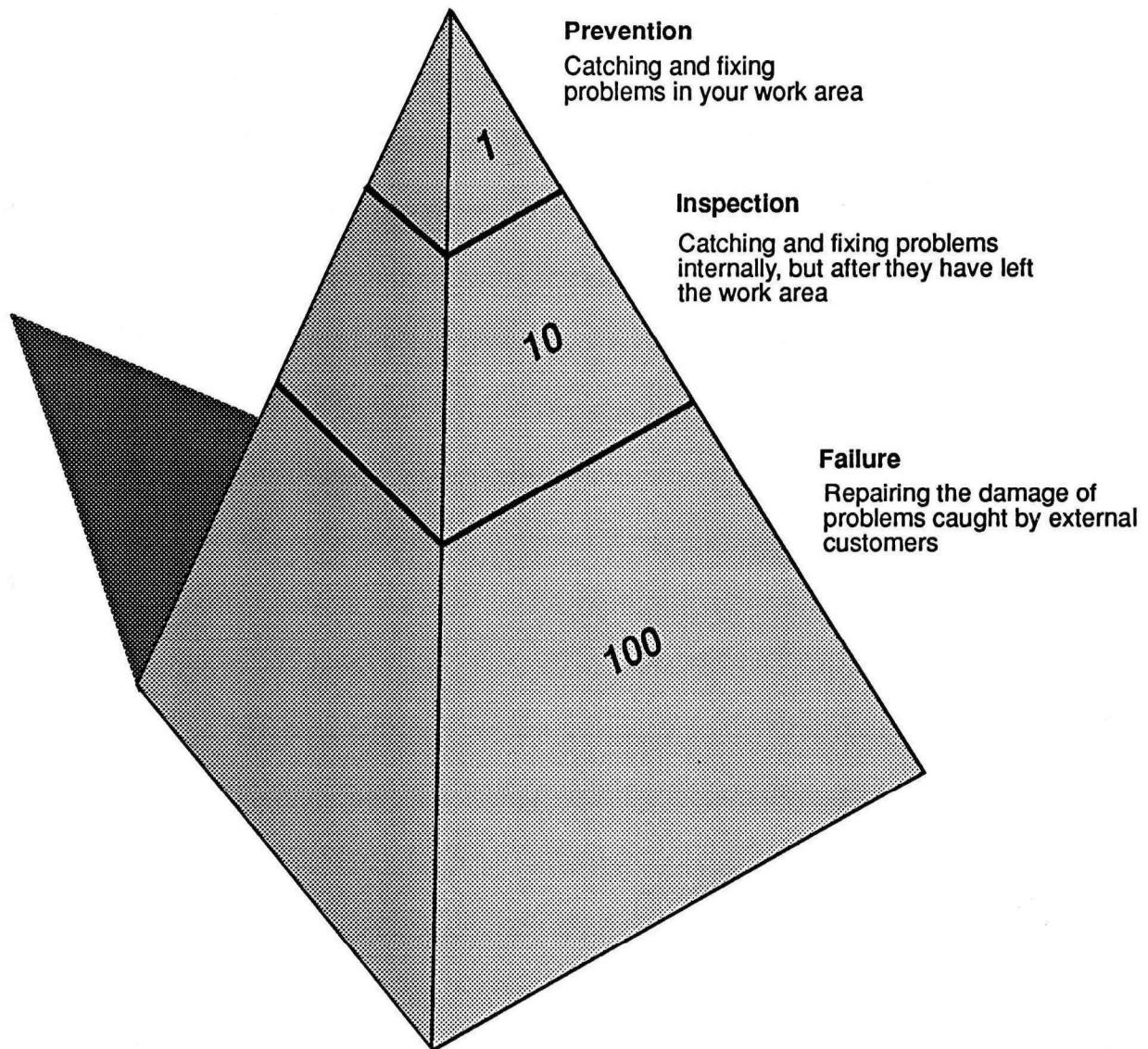
Objectives

By the end of this module, you will be able to

- Recognize the cost to your organization whenever quality work is not done
- Break down the cost of quality into two categories: necessary costs and avoidable costs
- Estimate your own avoidable cost of quality and its impact on your work

The 1-10-100 Rule

It makes a difference *when* a problem is fixed. The 1-10-100 rule shows that if a problem is not anticipated or fixed in your work area when it occurs, it will only become more costly to fix later, in terms of both time and money.



Exercise

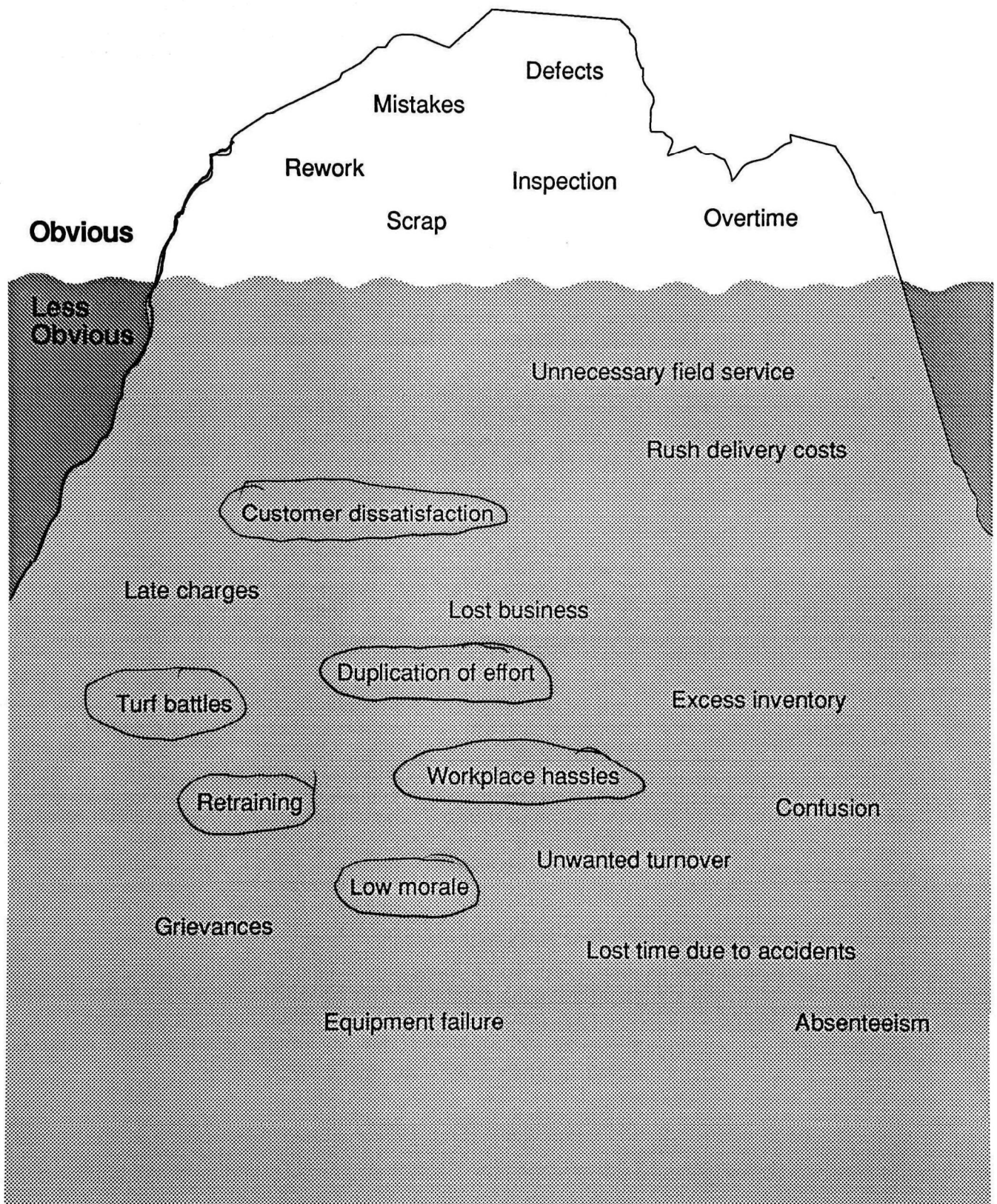
Using the Cost-of-Quality Iceberg

The cost of quality is like an iceberg: A small part of it is visible, while the larger part is hidden from view.

Directions

- Step 1.** On the next page, place a check next to any of those costs that apply to your work area.
- Step 2.** Write any additional cost-of-quality items in the blank areas.
- Step 3.** Circle the five most significant costs in your work area.
- Step 4.** Be prepared to present these five costs of quality to the group.

The Cost-of-Quality Iceberg

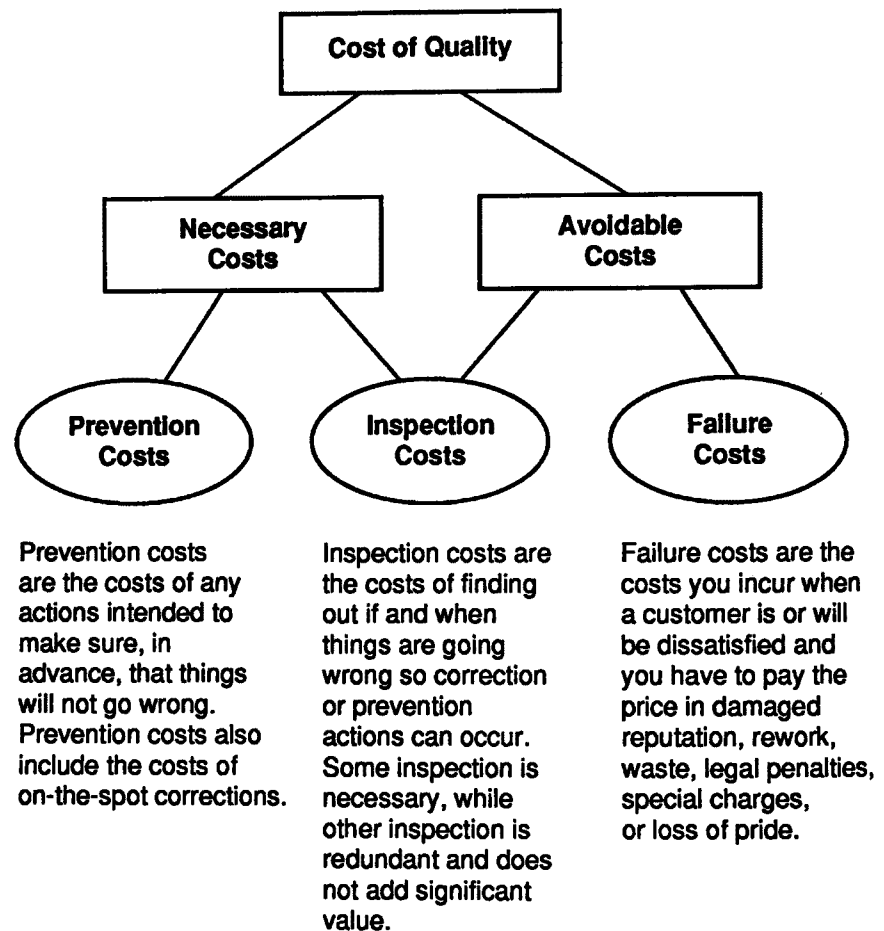


Necessary and Avoidable Costs

The cost of quality is composed of two types of costs: necessary and avoidable. Necessary costs are required to achieve and sustain a defined standard of work. Avoidable costs occur whenever wrong things are done or things are done wrong.

Necessary costs include prevention and inspection. Avoidable costs include some inspection (or appraisal) costs and failure costs.

The Cost of Quality



Identifying the necessary and avoidable costs of quality is the first step toward reducing those costs. An organization's managers and employees are the people close enough to the action to know where the waste really is.

Video

“The Cost of Quality”

You have identified some costs of quality in your work area. In this video you will learn what you can do to reduce your organization's cost of quality.

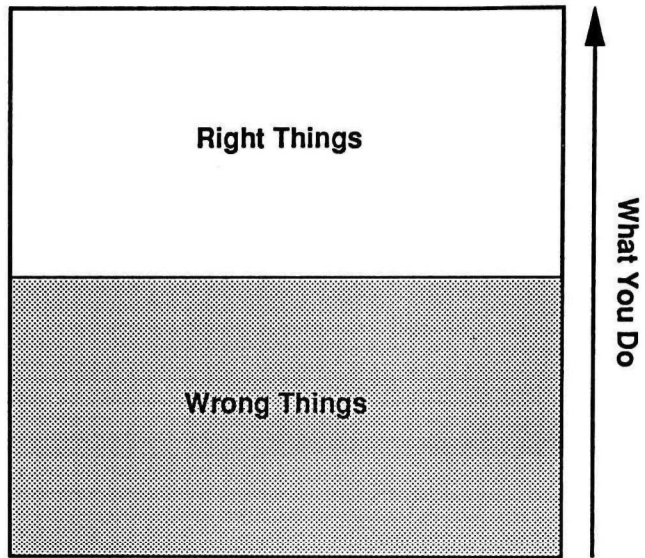
Discussion Question

If all the employees in your organization did exactly what they were supposed to do, and did their jobs perfectly, would all your cost of quality disappear?

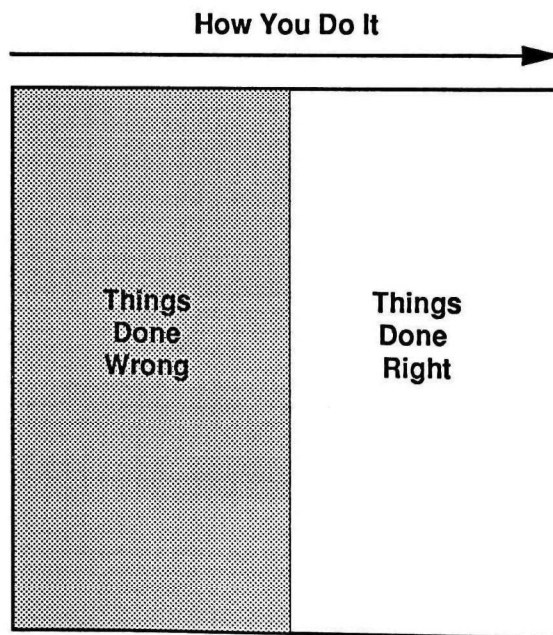
The Quality Grid

Every job has two dimensions: *what you do* and *how you do it*.

1. *What you do* falls into one of two categories: right things and wrong things.



2. *How you do it* also falls into two categories: things done right and things done wrong.



Both dimensions (what you do and how you do it) can be combined to create what we call a quality grid. You can use the grid to evaluate your work. The example below shows the categories for various work activities.

The Quality Grid

How You Do It →		↑ What You Do
Right Things Wrong	Right Things Right	
<ul style="list-style-type: none">• Wrote grant proposal as requested and on schedule, did not seek input from those affected• Filled out correct form, information inaccurate	<ul style="list-style-type: none">• Completed necessary report correctly and on schedule• Provided information as requested, in an accurate, timely manner	
Wrong Things Wrong	Wrong Things Right	
<ul style="list-style-type: none">• Scheduled unnecessary meeting, poorly run• Sent bill to wrong person, calculation incorrect	<ul style="list-style-type: none">• Held meeting seeking input on decision already made, ran meeting well• Completed unnecessary report, written well, and submitted on time	

Exercise

Estimating Your Cost of Quality

Now that you understand the importance of doing right things and doing things right, it is time to examine your own work.

Directions

Step 1. In the space below, list the major work activities you have been engaged in during the last two weeks. Examples: wrote memo on department absenteeism, attended meeting on budget variance, filled out standard requisition form, wrote recommendation for revising an SOP, listened to an employee's complaints.

•

•

•

•

•

•

•

•

Step 2. Review your list. Write each of the activities you listed in the appropriate box below.

The Quality Grid

How You Do It

Right Things Wrong

Right Things Right

Wrong Things Wrong

Wrong Things Right

What You Do

Step 3. Estimate the percentage of time you spent doing the activities that you listed in each square of the quality grid. Write your estimates in the grid below.

RTW %	RTR %
WTW %	WTR %

Step 4. Subtract your right things right (RTR) percentage from 100 percent, and you will have your avoidable cost of quality.

Total	<u>100%</u>
- RTR	<u>— %</u>
= Avoidable Cost of Quality	<u>= %</u>

Below are some of the key points in this module. Please add your own.

- Quality means doing right things and doing things right.
- An organization can improve quality while reducing costs.
- The cost of quality includes two components: necessary costs and avoidable costs.
- Necessary costs are required to ensure quality work.
- Avoidable costs are the result of not doing right things right.
- Whenever employees don't do right things right, they add to the avoidable costs of quality.
- Everyone is responsible for reducing the avoidable costs of quality.
-
-
-

Module Three

You and Your Customer

Contents

You and Your Customer

Overview: You and Your Customer	2
Presentation: Work as a Process	3
Exercise: Identifying Customers and Suppliers	6
Video: "You and Your Customer"	8
Presentation: The Customer's Expectations for Quality	9
Video: "Moving toward Alignment"	10
Exercise: Aligning with Your Customer	11
Key Points: You and Your Customer	15

Overview

You and Your Customer

This module introduces us to a new way of thinking about work. We will see that everyone in our organization is both a customer and a supplier. And we will see how establishing and meeting agreed-upon customer requirements and building positive relationships between customers and suppliers are critical to doing right things right.

Objectives

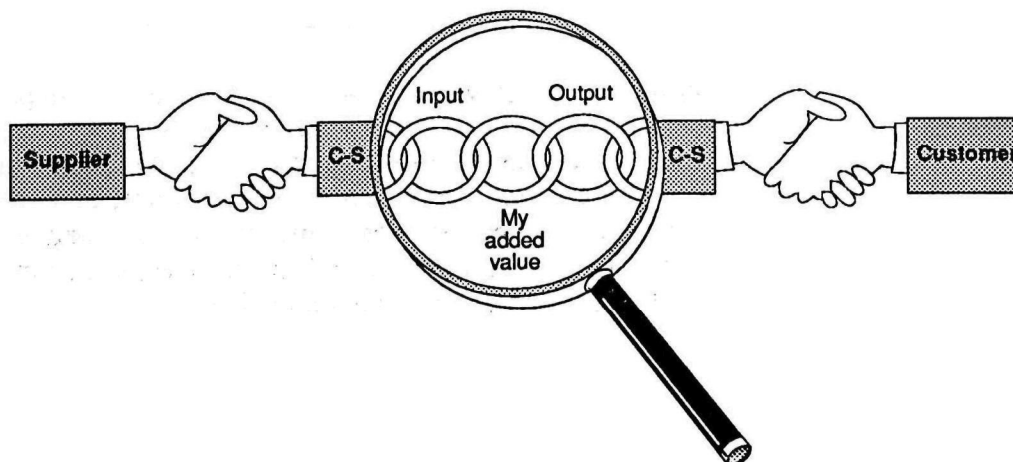
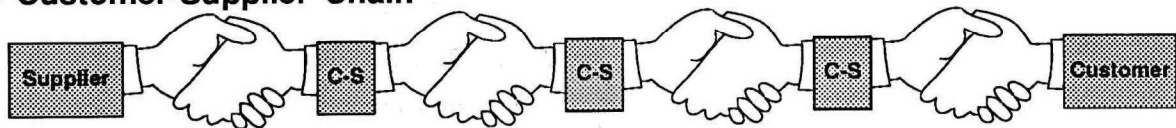
By the end of this module, you will be able to

- Recognize how everyone in a quality organization is part of a customer-supplier chain
- Identify your key customers and suppliers
- Understand the importance of first aligning customer needs and supplier capabilities and then meeting agreed-upon requirements
- Use three simple questions to help build positive and productive working relationships with your customers
- Use the PRIDE elements—product or service, relationship, integrity, delivery, and expense—to guide the development of customer-supplier agreements

In order to integrate quality into everything he or she does, everyone in an organization must understand the following:

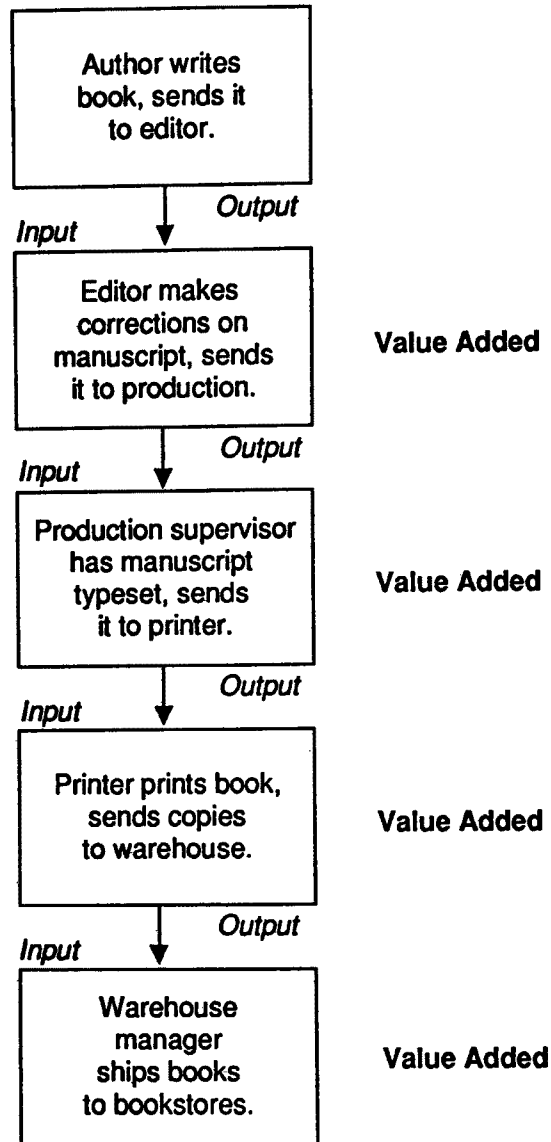
- All work is a process in which employees are both customers of and suppliers to each other, forming a chain.
- You are a customer when you get material, information, or services from others in your organization or from an outside source.
- You are a supplier when you provide material, information, or services to others in your organization or to external customers.
- The materials, information, or services you receive from others as a customer are inputs.
- The materials, information, or services you provide to others as a supplier are outputs.
- When you are doing right things right, you add value to the inputs you handle.
- Adding value is a key concept of TQM. Everyone in the agency should examine all of his or her activities to determine whether each creates an output that adds significant value to the input received.

The Customer-Supplier Chain



You can create a flowchart of any work process in order to identify the customer-supplier chain. Below, you'll find a simplified flowchart illustrating the process of publishing a book.

Publishing a Book



Although this flowchart does not show all the steps required to get a book into print or all the customers and suppliers involved, it does illustrate essential customer-supplier links. In this chain, the author is the supplier of the manuscript, and the editor is the customer. The editor adds value to the book and produces output (the edited manuscript), which he or she then supplies to production, the next customer in line.

In the process of turning the manuscript over to production, the editor moves from the role of customer to that of supplier. In fact, in the customer-supplier chain, everyone is at one time or another both a customer and a supplier. We all wear two hats.

Identifying your role at any given point in the customer-supplier chain helps you improve your customer-supplier relationships and determine whether you are adding value; it also makes the work flow more smoothly.

Summary

- In an organization everyone is both a customer and a supplier.
- The handoff of work from suppliers to customers creates the customer-supplier chain.
- Your work is part of a process of inputs, added value, and outputs moving through the customer-supplier chain. It is not an isolated activity.
- Your boss is both a customer of and a supplier to you, and you are both a customer of and a supplier to your employees.
- When the requirements of every customer in the chain are met, your organization can reach its quality goals.

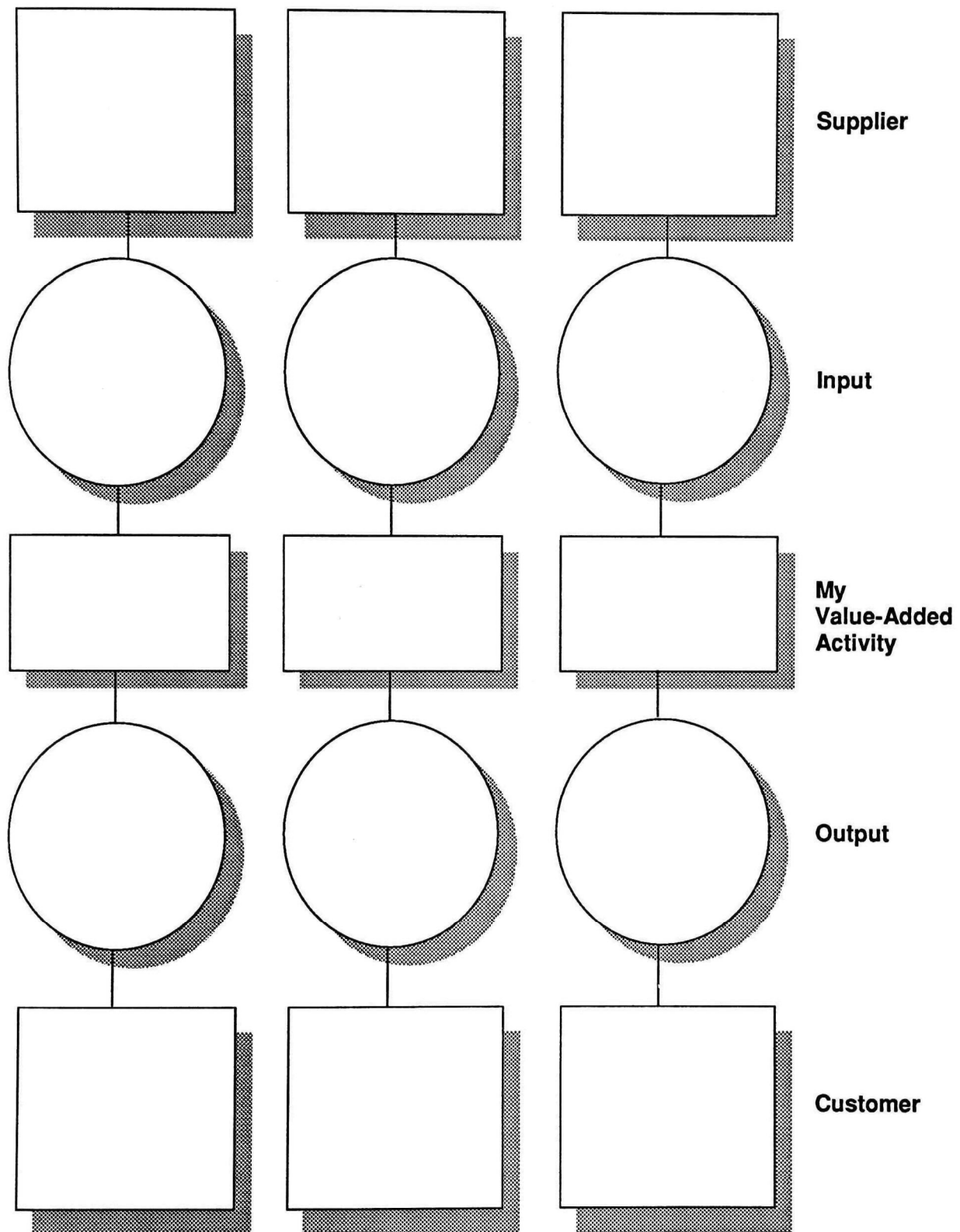
Exercise

Identifying Customers and Suppliers

In this exercise, you will identify your role in the customer-supplier chain.

Directions

- Step 1.** Think of yourself as one link in a chain of activities.
- Step 2.** On the worksheet on the next page, write three of your most important outputs in the appropriate spaces.
- Step 3.** Write the names of key customers who use these outputs.
- Step 4.** Write the most critical inputs you need to complete your outputs.
- Step 5.** Write the names of the key suppliers who give you these inputs.



Video

“You and Your Customer”

This video emphasizes the importance of listening to your customers. By focusing on what your customers want, you are more likely to do right things right.

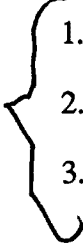
Discussion Questions

1. What are the "lettuce and tomato rules" in your organization?
2. Are the employees in the restaurant doing right things?
3. How could the restaurant and its customers be better aligned?

You've just seen a video in which well-meaning suppliers were not aligned with the needs of their customers. The concept of PRIDE was introduced as a way of identifying the key elements that must be aligned between customers and suppliers. Let's take a closer look at PRIDE.

Elements	Criteria
Product or service	<ol style="list-style-type: none">1. Is it what my customer needs?2. Does it do what my customer wants?
Relationship	<ol style="list-style-type: none">1. Do we trust each other?2. Have we talked about how we will work together?
Integrity	<ol style="list-style-type: none">1. Can I provide the support that my customer needs?2. If requirements are not met, what will I do?
Delivery	<ol style="list-style-type: none">1. Do I ensure that the product or service is delivered on time to the right person or location?2. Do I see that it arrives in usable form?
Expense	<ol style="list-style-type: none">1. Does the customer believe that the product or service is a good value?2. Do I provide the customer the product or service in a cost-effective manner?

Discussions between customers and suppliers must be based on understanding and mutual support. To create this kind of relationship, it is often necessary to remove barriers that separate customers and suppliers. In this video, you will see how three key questions can help you remove these barriers and begin to build positive working relationships with your own customers and suppliers:

- 
1. What do you need from me?
 2. What do you do with what I give you?
 3. Are there any gaps between what I give you and what you need?

Discussion Questions

1. Could any of your existing customer-supplier relationships be improved by asking the three key questions? Which ones?
2. Are there any other questions you think suppliers and customers should ask each other?

Exercise

Aligning with Your Customer

The PRIDE concept is helpful in specifying the requirements that you as a supplier need to meet. In this exercise, you will have an opportunity to practice using the three alignment questions to establish requirements with a customer.

Directions

- Step 1.** Read the PRIDE reference page.
- Step 2.** Form a customer-supplier pair and complete the worksheet, "Aligning with Your Customer."
- Step 3.** Summarize the agreed-upon requirements in the worksheet, "Agreed-Upon Requirements."

The three questions that can help you align with your customers are

1. What do you need from me? This first question can help you use the PRIDE elements to understand different facets of your customer's requirements.
2. What do you do with what I give you? This second question can help you understand how the customer uses your input so that you can make additional suggestions that may not have occurred to the customer and better meet customer requirements.
3. Are there any gaps between what I give you and what you need? The third question can give you an opportunity to make explicit your capabilities with respect to customer requirements so that both you and your customer are clear about what is and is not possible. This alignment between customer requirements and supplier capabilities is what solidifies agreed-upon or valid requirements.

1. What do you need from me?

Product or service

Relationship

Integrity

Delivery

Expense

2. What do you do with what I give you?

3. Are there any gaps between what I give you and what you need?

Worksheet

Agreed-Upon Requirements

Product or service

Relationship

Integrity

Delivery

Expense

Below are some of the key points in this module. Please add your own.

- Work processes link employees as customers and suppliers in a chain.
- Your work is part of a process of inputs, added value, and outputs moving through the customer-supplier chain.
- It is important that all employees determine whether each of their activities adds value to the overall mission of the agency, and, if not, that they help redesign work processes to ensure that each activity is value added.
- Aligning customer needs with supplier capabilities helps ensure that you are doing right things right.
- Three key questions can facilitate alignment between customers and suppliers:
 1. What do you need from me?
 2. What do you do with what I give you?
 3. Are there any gaps between what I give you and what you need?
- PRIDE is a way of identifying key elements that must be aligned between customers and suppliers.
- Customer satisfaction is the result of meeting agreed-upon requirements.
-
-
-

Module Four

Continuous Improvement—Doing Right Things

Contents

Continuous Improvement—Doing Right Things

Overview: Continuous Improvement—Doing Right Things	2
Presentation: The Quality Blueprint	3
Presentation: The Quality Blueprint—Step One	6
Tool: Brainstorming	7
Tool: Multivoting	9
Tool: Selection Grid	10
Exercise: Applying the Quality Blueprint—Step One	12
Presentation: The Quality Blueprint—Steps Two, Three, and Four	15
Exercise: Applying the Quality Blueprint—Steps Two, Three, and Four	16
Key Points: Continuous Improvement—Doing Right Things	19

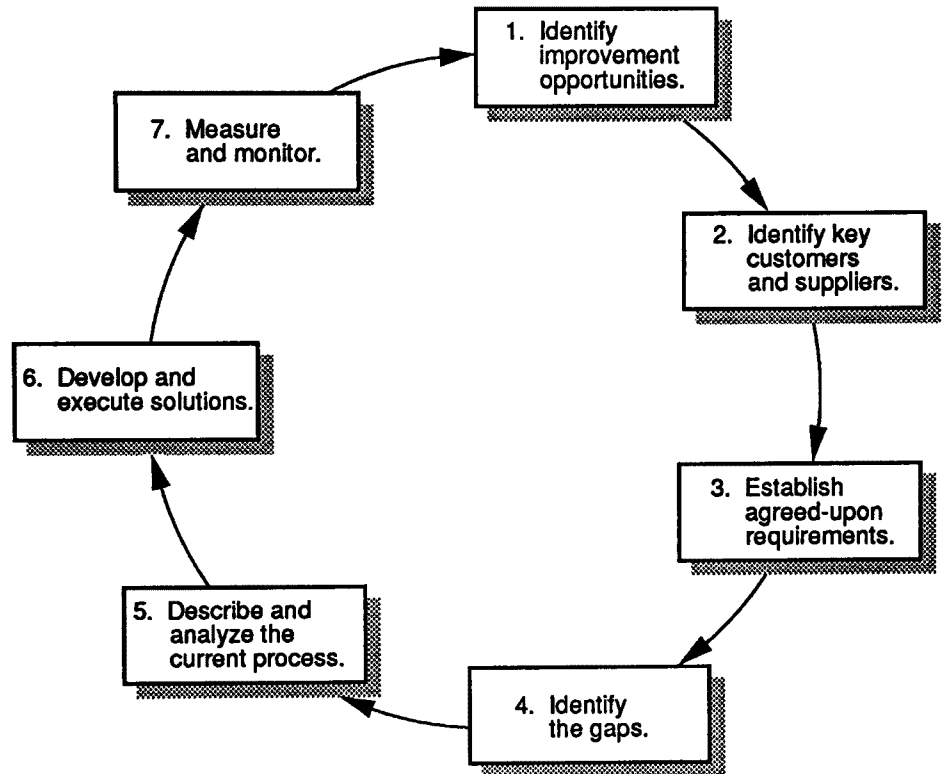
We have completed the first three modules of *The EPA Executive Course on Quality* which cover essential quality concepts and techniques. Now it is time to apply this information for the purpose of continuous improvement. In this module we shall present a seven-step blueprint for managing quality implementation. We shall complete the first four steps that focus on doing right things. (The last three steps will be discussed in module 5.)

Objectives

By the end of this module, you will be able to

- Review cost-of-quality and customer data along with your assessment of the five pillars to identify improvement opportunities
- Apply several problem-solving tools to select one process-improvement opportunity from your list
- Determine the key customers of this process and, using the PRIDE model, establish their requirements and identify the gaps

The quality blueprint is a disciplined way to undertake quality improvement efforts that will make a difference in your organization. The first four steps are a guide to doing right things. The last three steps are a guide to doing things right.



Doing Right Things

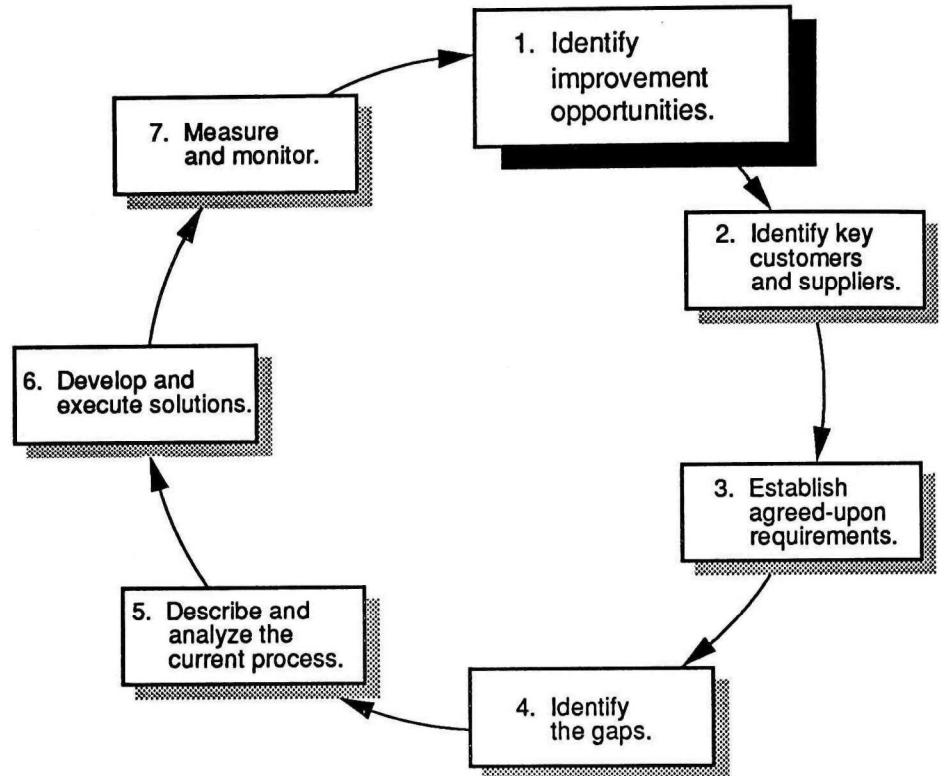
Steps	How
1. Identify improvement opportunities.	<ul style="list-style-type: none">• Listen to your customers.• Look at your current measures of the five pillars.• Identify avoidable costs of quality.• Set priorities for critical improvements.
2. Identify key customers and suppliers.	<ul style="list-style-type: none">• Ask, "Who gets my output?"• Ask, "Whose input do I need?"• Determine critical customers and suppliers.
3. Establish agreed-upon requirements.	<ul style="list-style-type: none">• Ask your customers<ul style="list-style-type: none">"What do you need from me?""What do you do with what I give you?""Are there any gaps between what I give you and what you need?"• Establish performance measures.
4. Identify the gaps.	<ul style="list-style-type: none">• On the basis of your data, identify the gaps between what your customers need and what your work process can supply.• Ask, "What data do I have to confirm gaps?"

Doing Things Right

Steps	How
5. Describe and analyze the current process.	<ul style="list-style-type: none">• Flowchart processes to understand how things work <i>now</i>.• <i>Focus</i> on bottlenecks, nonvalue-added steps, and rework.• <i>Analyze</i> the root causes of breakdowns using the <i>why</i> technique and other quality improvement tools.• Ask, "Does the current process consistently meet customer requirements?"
6. Develop and execute solutions.	<ul style="list-style-type: none">• If the current process can meet requirements, fix it so that it meets them every time.• If the current process cannot meet requirements, <i>develop</i> a new process.• Use contingency diagrams and prevention checklists to anticipate and eliminate problems.• <i>Execute</i> your action plan for improving the process.
7. Measure and monitor.	<ul style="list-style-type: none">• Establish comprehensive measures and feedback systems.• Document results.

The first step in the quality blueprint is identifying improvement opportunities. Several tools can help you in this process. They include brainstorming, multivoting, and the selection grid.

Step One



Tool

Brainstorming

What It Is

A technique for generating a list of ideas about an issue.

What to Use It For

- Generating lists of
 - Problems
 - Topics for data collection
 - Potential solutions
 - Items to monitor
- Obtaining multiple ideas and/or more group energy

How to Use It

- Step 1.** Decide on a topic (such as "problem ideas" or "ideas for solutions").
- Step 2.** Have each member in turn offer an idea about the topic. Other members should refrain from any comment, listen carefully, and build on each other's ideas.
- Step 3.** Have one person record all the ideas on a flipchart.
- Step 4.** Continue the process until the team feels it has exhausted its ideas on the topic.
- Step 5.** Discuss and clarify the ideas on the list.

Example

A cross-divisional work group was given the task of coming up with a "wish list" for the new agency lunchroom. Six people got together and generated the following list of ideas:

Running water and sink
Relaxing music
Tables and chairs
Microwave oven
Chandelier/candlelight
Full-time attendant
Food delivery service
Massage lounge chairs
Recycle containers

Soft drink machine
High-capacity coffee maker
Refrigerator
Toaster
Linen tablecloths
Fruit-juice fountain
Free bagels and cream cheese
Multi-beverage dispenser

Keep in Mind

- Set a time limit for the brainstorming session.
- Offer ideas only when it is your turn. Between turns, write down ideas so you do not forget them.
- Any idea is acceptable, even if it seems silly, strange, or similar to a previous idea. Some of the best ideas are simply variations on what somebody else just said.
- Say "pass" if you do not have an idea on your turn.
- Never criticize, question, or even praise others' ideas during the brainstorming session.

Tool

Multivoting

What It Is

A technique for narrowing down a list of ideas or options. It is used in conjunction with brainstorming.

What to Use It For

Selecting a problem, topic for data collection, solution, or item to monitor

How to Use It

Step 1. Use brainstorming to generate a list of topics. Have one person record the ideas on a flipchart. Review and clarify each idea. With the consent of the group, similar ideas can be combined.

Step 2. Have each member assign ten points to one or more of the ideas (e.g., team members can assign all ten points to one idea, five to one and five to another, one to each idea, or any other combination).

Step 3. Ask team members to record their points for each idea on a separate Post-it note and to place the Post-it note next to the idea on the flipchart, or have team members call out their votes in turn.

Step 4. Tally the votes for each idea. Narrow down the list to the four to six ideas that received the most votes.

Example

The cross-divisional work group who brainstormed a wish list for the new agency lunchroom wanted to narrow down their list of ideas from seventeen to five. Each group member was assigned ten points with which to vote for the topics. Here is the resulting list.

Running water and sink (4)	Soft drink machine (8)
Relaxing music (1)	High-capacity coffee maker (10)
Tables and chairs (11)	Refrigerator (15)
Microwave oven (7)	Toaster (4)
Chandelier/candlelight	Linen tablecloths
Full-time attendant	Fruit-juice fountain
Food delivery service	Free bagels and cream cheese
Massage lounge chairs	Multi-beverage dispenser
Recycle containers (10)	

Keep in Mind

- Feel free to distribute your votes in any way you like.
- To preserve anonymity, multivoting can also be done by written ballot (sometimes called *nominal group technique*).

Tool

Selection Grid

What It Is

A method for selecting one option from several possibilities. It involves deciding what criteria are important and using them as a basis for reaching an acceptable decision.

What to Use It For

- Choosing a single problem from a list of problems
- Choosing a single solution from a list of solutions

How to Use It

Step 1. Narrow the list of potential choices: Ask which items are of special interest to the group (or use multivoting).

Step 2. Choose criteria, each with a scoring system (e.g. yes/no, high/low, or whatever seems most appropriate).

Step 3. Make a grid with the criteria across the top and the options on the left side. Fill in the grid to evaluate how well each option satisfies each criterion.

Step 4. Use the information on the grid to help you select the best option.

Here are two ways to think about criteria.

1. *Worthwhile*. Is the problem worth working on? This can include *quality* (for the customer), *cost* (to the organization), and *hassle* (for those who do the work).
2. *Doable*. Can we make progress on the situation? This can include *support* (from management and others), *time* (for us to see the work through to completion), *knowledge* (about the topic), and *interest* (in working hard at it).

Example

The Pied Pipers were a quality action team from Local #256, Pipefitters and Welders. The team, composed of six individuals, was trying to decide among three problems they might work on: (1) poor washer assemblies, (2) inadequate inventories of large-scale pipes in the field warehouses, and (3) lack of coordination between the Pied Pipers and other working teams. Each member of the team voted once on whether he or she thought the problems were worth tackling, whether management support could be gained, and whether he or she had sufficient time and interest to work on that particular concern.

Selection Grid

Problem	Selection Criteria			
	Worthwhile?	Mgmt. Support?	Time?	Interest?
Poor washer assemblies	Yes: 3 No: 3	Yes: 3 No: 3	Yes: 4 No: 2	High: 3 Low: 3
Inadequate inventories	Yes: 5 No: 1	Yes: 4 No: 2	Yes: 5 No: 1	High: 4 Low: 2
Lack of coordination	Yes: 6 No: 0	Yes: 2 No: 4	Yes: 1 No: 5	High: 5 Low: 1

While the selection grid did not answer precisely what problem to work on, it was clear to the Pied Pipers that inadequate inventories of large-scale pipes was something that most of the members felt strongly about and for which there was time, interest, and probably management support. The team chose this problem on which to work.

Keep in Mind

- List your criteria without regard to the options.
- The selection grid may not give you a clear-cut decision, but it does provide information. You must still make the final judgment.

Exercise

Applying the Quality Blueprint—Step One

In this exercise you will complete step 1 of the quality blueprint by choosing one process to improve from a list of improvement opportunities.

Directions

- Step 1.** Take a few minutes to review the data from modules 1, 2, and 3—current ratings of the five pillars, avoidable costs of quality, and customer-supplier gaps.
- Step 2.** Read the criteria for process selection on the following page.
- Step 3.** Based on these criteria and your data, brainstorm a list of process-improvement opportunities. The processes you choose need to be existing processes for which you can identify clear beginning and ending points.
- Step 4.** Use multivoting to narrow the list to four to six processes.
- Step 5.** Use a selection grid to choose one process for improvement. (You may use the worksheet, "Selection Grid.")
- Step 6.** Record the process you have selected for improvement. Write a process statement that includes the parameters of the process, i.e., where it begins and where it ends.

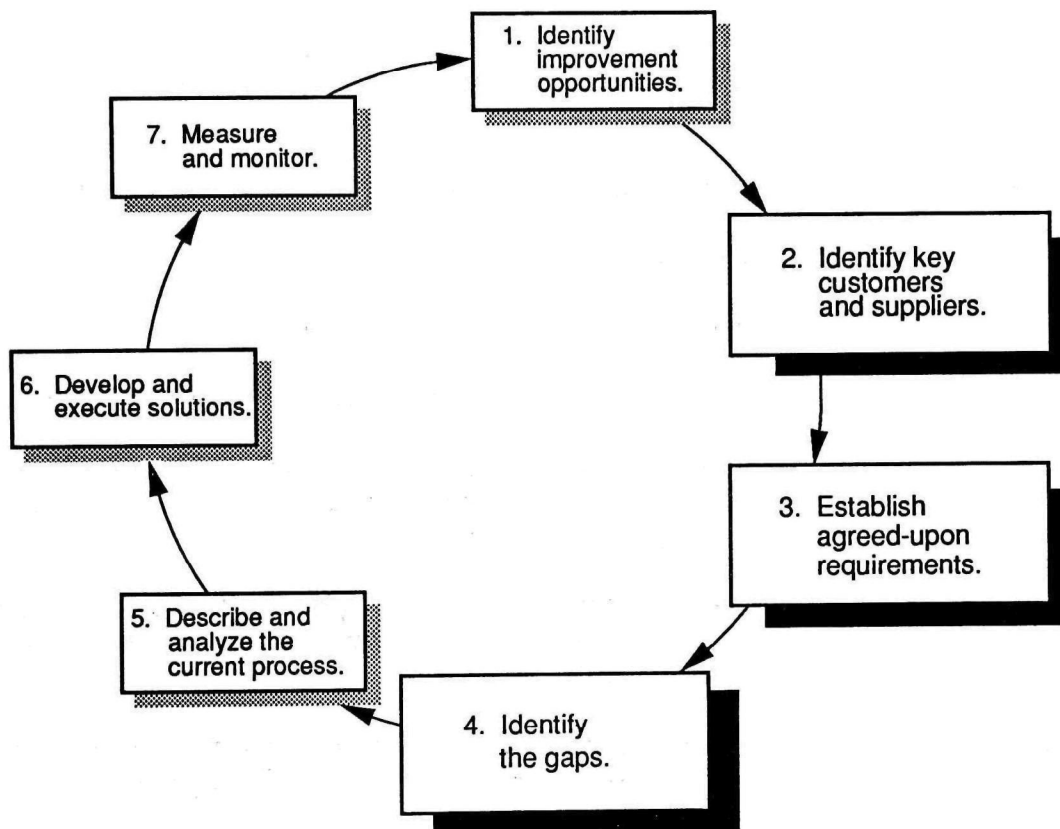
The process you choose should

- Be relevant and important to the team or work group
- Be actionable, in that the work group has at least partial control over its outcome
- Be repetitive, not a one-time or infrequently occurring event; it must exist now as something that can be identified, studied, and flowcharted
- Be aligned with the organization's mission and strategies (i.e., have a service or product-improvement goal)
- Be recognized as needing change and improvement
- Not have obvious solutions for improvement
- Involve multiple customers and suppliers who can be identified
- Have a high enough priority to secure the necessary commitment of time to improve it
- Be a manageable size; if your process is too long or complicated, use a part of it that fits the criteria above

Problem	Selection Criteria				

The Quality Blueprint—Steps Two, Three, and Four

Once you have selected a process to improve, you can identify the key customers and suppliers in this process, establish the agreed-upon requirements, and target the gaps.

Steps Two, Three, and Four

Exercise

Applying the Quality Blueprint—Steps Two, Three, and Four

Steps 2, 3, and 4 of the quality blueprint ensure that you are doing the right thing with respect to the process you have selected for improvement. After you have identified your key customers, you must contact them and ask them about their expectations for quality. However, for the purpose of this exercise, a member of the group will play the role of one of your customers, drawing on current knowledge of this customer's expectations.

Plan to meet with your actual customer to verify (or modify) your assumptions and to negotiate valid requirements.

Directions

Step 1. Review the process you selected for improvement.

Step 2. Brainstorm a list of your key customers.

Step 3. Pick one of these customers.

Step 4. Have a group member play the role of this customer.

Step 5. Have the "customer" identify requirements and gaps by answering the three questions in the worksheet on the following page.

Step 6. With the rest of the group acting as the supplier, negotiate your requirements using the PRIDE dimensions.

Step 7. Summarize your agreed-upon requirements on the worksheet, "Agreed-Upon Requirements."

1. What do you need from me?

Product or service

Relationship

Integrity

Delivery

Expense

2. What do you do with what I give you?

3. Are there any gaps between what I give you and what you need?

Worksheet

Agreed-Upon Requirements

Product or service

Relationship

Integrity

Delivery

Expense

Key Points

Continuous Improvement—Doing Right Things

Below are some of the key points in this module. Please add your own.

- In order to improve quality, you must listen to your customers and then remove the obstacles that prevent you from doing right things right.
- The quality blueprint can be used by managers, either individually or in informal work groups, to improve quality.
- The first four steps of the quality blueprint can help you determine what the right things are for a process that needs improving.
-
-
-

Module Five

Continuous Improvement—Doing Things Right

Contents

Continuous Improvement—Doing Things Right

Overview: Continuous Improvement—Doing Things Right	2
Exercise: Snowstorm Survival	3
Presentation: The FADE Problem-Solving Process	8
Presentation: Integration of the Quality Blueprint and FADE	9
Video: “Introduction to QAT”	12
Presentation: The Quality Blueprint—Step Five	13
Exercise: Applying the Quality Blueprint—Step Five	14
Tool: Flowchart	15
Tool: Fishbone Diagram	18
Tool: The <i>Why</i> Technique	20
Tool: Pareto Analysis	21
Presentation: The Quality Blueprint—Step Six	24
Exercise: Applying the Quality Blueprint—Step Six	25
Tool: Force-Field Analysis	26
Tool: Contingency Diagram	29
Tool: Action Plan	31
Presentation: The Quality Blueprint—Step Seven	33
Presentation: Guidelines for Developing Quality Measures	34
Tool: Measurement Matrix	36
Exercise: Developing Quality Measures—Step Seven	38
Tool: Trend Chart	42
Tool: Specifications and Control Limits	44
Key Points: Continuous Improvement—Doing Things Right	48

Overview

Continuous Improvement—Doing Things Right

In the previous module, you used the quality blueprint to select a process that needs improvement and to practice doing right things. You asked your customers about their requirements and about any gaps between what they need and what you provide. In this module, you will apply the quality blueprint to your process in order to ensure that you are doing things right in meeting your customers' needs.

Objectives

By the end of this module, you will be able to

- Understand the links between the quality blueprint and the FADE problem-solving methodology
- Apply some specific tools to help reveal the possible root causes of problems and to develop solutions
- Create an action plan to implement your solution
- Develop quality measures for your work process
- Recognize special and common (or system) causes of variation in work processes
- Understand trend charts and specifications and control limits

Exercise

Snowstorm Survival*

In this exercise, you will explore the notion of synergy. Working first by yourself and then in groups, you will test your group's power to enhance individual judgments.

Directions

Step 1. Read the story below.

It's 2:00 P.M. on a Friday and you look out your office window. The sky is white and snow is lightly falling. The weather report predicted snow, but not until evening, and you are surprised at its early arrival.

You return to your desk to work on a project you've been involved in all week, occasionally glancing out the window. By 4:00 P.M. the snow has considerably increased. Only one or two inches appear to cover the ground, however, and you are anxious to complete your project before the weekend, so you continue working.

By 4:30 P.M. you realize you are looking out the window at a fierce blizzard. You can barely see the building across the street. You realize that if you're going to get home, you'd better leave at once. You're not too worried, since you have a nine-passenger Jeep with four-wheel drive, and you've yet to encounter terrain that could stop it.

You get your gear together, grab some file folders, and on an impulse you call your spouse to say you are leaving and expect to be home by 7:00 P.M. at the latest.

When you get to the lobby, you meet several of your colleagues, all of whom live forty miles north, in the same general area as you. They are looking forlornly at the growing snowdrifts and discussing the merits of staying at work or making a run for it. You offer to take anyone who wants to come along with you; four agree. After fighting the gale-force winds, you finally settle in the Jeep, warm up the engine, and take off.

*Many of the details of this story are taken from situations that occurred during a massive snowstorm in New England in the winter of 1978, when hundreds of commuters were trapped in traffic following the sudden and unexpected onset of a blizzard.

You put your vehicle into four-wheel drive and head for the highway. At first, traffic is minimal and the Jeep plows through the snow. But the highway is jammed when you arrive, so you decide to detour via a special route you're familiar with. It is longer and takes you through rolling farmland with empty fields and few houses.

Within twenty minutes you are having trouble holding the road. Within an hour even your sturdy Jeep is unable to make any headway against the two-foot drifts. You push on as far as you can go, then stop and give your passengers the bad news. There's less than half a tank of gas left, you're at least five miles from the nearest farmhouse, and all you have in the Jeep outside of standard equipment are the following items:

- A collapsible shovel
- A dashboard-mounted compass
- Various maps of Massachusetts and New Hampshire
- A case of beer and one quart of scotch that you forgot to bring into your house the previous evening
- Fifty feet of nylon rope
- Two three-pound cans of coffee, unopened
- A Swiss army knife
- Two weeks' worth of newspapers, which were headed for recycling
- A flashlight with two good batteries

The five of you review all the resources in the Jeep that might be useful and come up with an additional six items. They are

- The spare tire
- A collapsible fishing pole
- Flares
- A 20' x 20' canvas tarp
- The rearview mirror
- The gasoline in the tank

The weather report on the radio is dire. The news sinks in: You are stuck miles from shelter in one of the worst snowstorms ever to hit your area.

It is now 7:00 P.M. The temperature is rapidly falling, and the snow has begun to drift to the level of the Jeep's roof. You discuss your survival strategy.

You all feel the need to do something: stay with the Jeep, try to reach a farmhouse or the highway, split up, or remain together.

Step 2. Work individually to complete the individual ranking worksheet. Rank the fifteen items listed according to their importance for survival. Put a 1 next to the most important item, a 2 next to the second most important item, and so on through 15.

Step 3. At the direction of your facilitator, break into small groups. Using the group ranking worksheet, record a group ranking for the fifteen items. Avoid voting; try to reach consensus by sharing your rationales.

Step 4. Be prepared to interpret your results and to discuss your group's decision-making process with the large group.

Worksheet

Snowstorm Survival—Individual Ranking

	Items	Your Ranking	Expert Ranking	Difference
1.	Shovel	_____	_____	_____
2.	Compass	_____	_____	_____
3.	Maps	_____	_____	_____
4.	Alcohol	_____	_____	_____
5.	Rope	_____	_____	_____
6.	Coffee cans	_____	_____	_____
7.	Knife	_____	_____	_____
8.	Newspapers	_____	_____	_____
9.	Flashlight	_____	_____	_____
10.	Spare tire	_____	_____	_____
11.	Fishing pole	_____	_____	_____
12.	Flares	_____	_____	_____
13.	Tarp	_____	_____	_____
14.	Mirror	_____	_____	_____
15.	Gasoline	_____	_____	_____
			Individual Score	_____

Worksheet

Snowstorm Survival—Group Ranking

	Items	Group Ranking	Expert Ranking	Difference
1.	Shovel	_____	_____	_____
2.	Compass	_____	_____	_____
3.	Maps	_____	_____	_____
4.	Alcohol	_____	_____	_____
5.	Rope	_____	_____	_____
6.	Coffee cans	_____	_____	_____
7.	Knife	_____	_____	_____
8.	Newspapers	_____	_____	_____
9.	Flashlight	_____	_____	_____
10.	Spare tire	_____	_____	_____
11.	Fishing pole	_____	_____	_____
12.	Flares	_____	_____	_____
13.	Tarp	_____	_____	_____
14.	Mirror	_____	_____	_____
15.	Gasoline	_____	_____	_____
			Group Score	_____

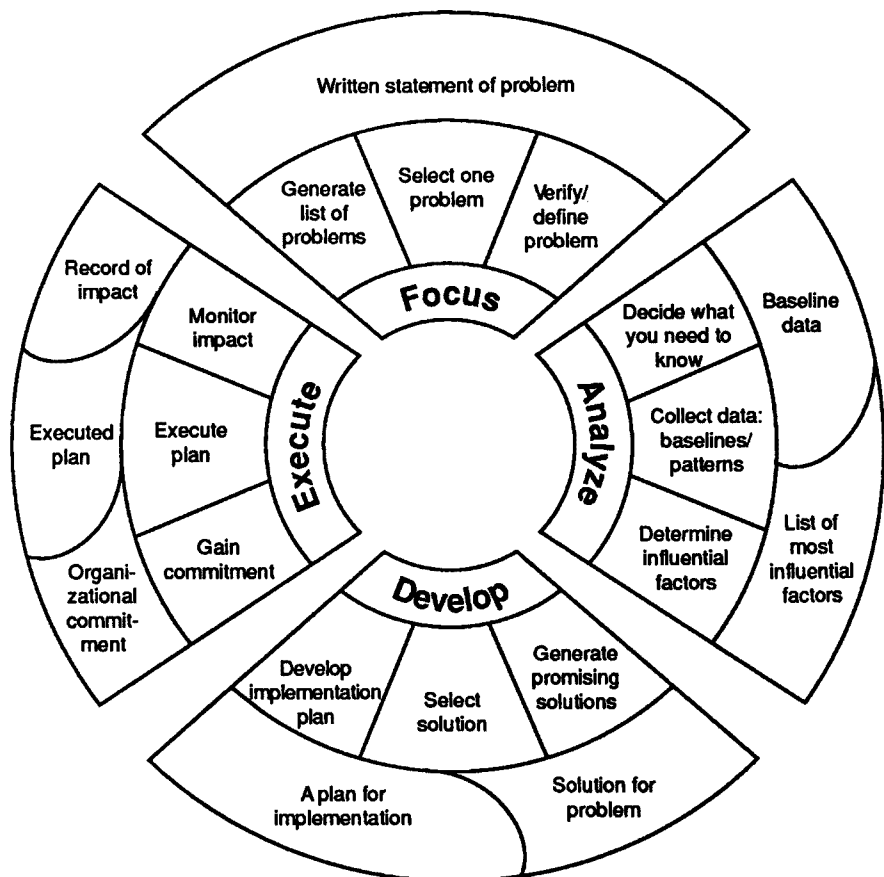
The FADE Problem-Solving Process

In the previous exercise you compared working individually with working on a team. In the rest of this module you will be working in teams to complete steps 5 through 7 of the quality blueprint cycle.

Here we introduce the FADE methodology, which is a team-based approach to problem solving and continuous improvement. The FADE methodology includes four phases and twenty-three problem-solving tools to be used by quality action teams (QATs). (Refer to "The QAT Problem-Solving Process" in the reference readings.) Each phase has a distinct output or set of outputs.

It is important for managers to realize that workers are frequently the most knowledgeable about how current processes work. Therefore, QATs will be especially important to managers in gaining valuable information from those who work closely with key processes.

The FADE Process

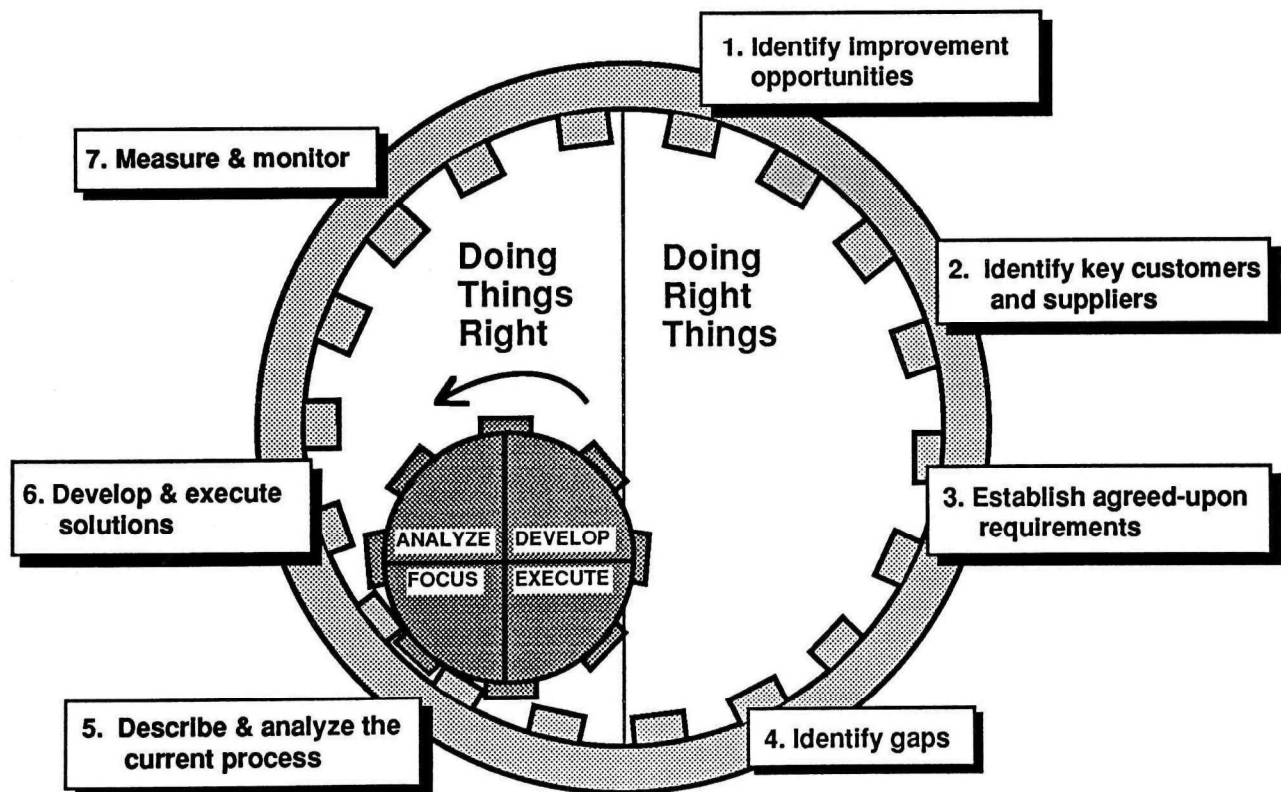


The quality blueprint is intended for managers to use, either individually or in informal work groups, in order to continuously improve work processes within their authority.

The FADE methodology is a more structured problem-solving discipline within the process-improvement cycle. It is used by formal QATs when criteria include:

- Process complexity
- Data-intensive requirements
- Significance of impact on agency goals
- Cross-functional or work-group team composition

The Quality Blueprint and FADE



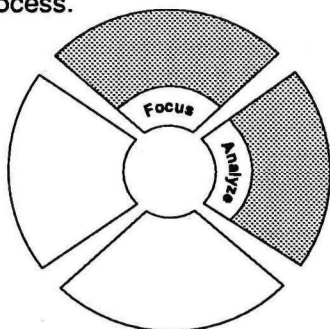
Doing Right Things

Steps	How
1. Identify improvement opportunities.	<ul style="list-style-type: none">• Listen to your customers.• Look at your current measures of the five pillars.• Identify avoidable costs of quality.• Set priorities for critical improvements.
2. Identify key customers and suppliers.	<ul style="list-style-type: none">• Ask, "Who gets my output?"• Ask, "Whose input do I need?"• Determine critical customers and suppliers.
3. Establish agreed-upon requirements.	<ul style="list-style-type: none">• Ask your customers<ul style="list-style-type: none">"What do you need from me?""What do you do with what I give you?""Are there any gaps between what I give you and what you need?"• Establish performance measures.
4. Identify the gaps.	<ul style="list-style-type: none">• On the basis of your data, identify the gaps between what your customers need and what your work process can supply.• Ask, "What data do I have to confirm gaps?"

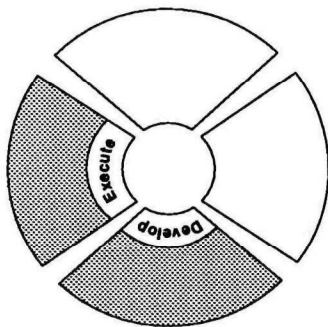
Doing Things Right

Steps

5. Describe and analyze the current process.



6. Develop and execute solutions.



7. Measure and monitor.

How

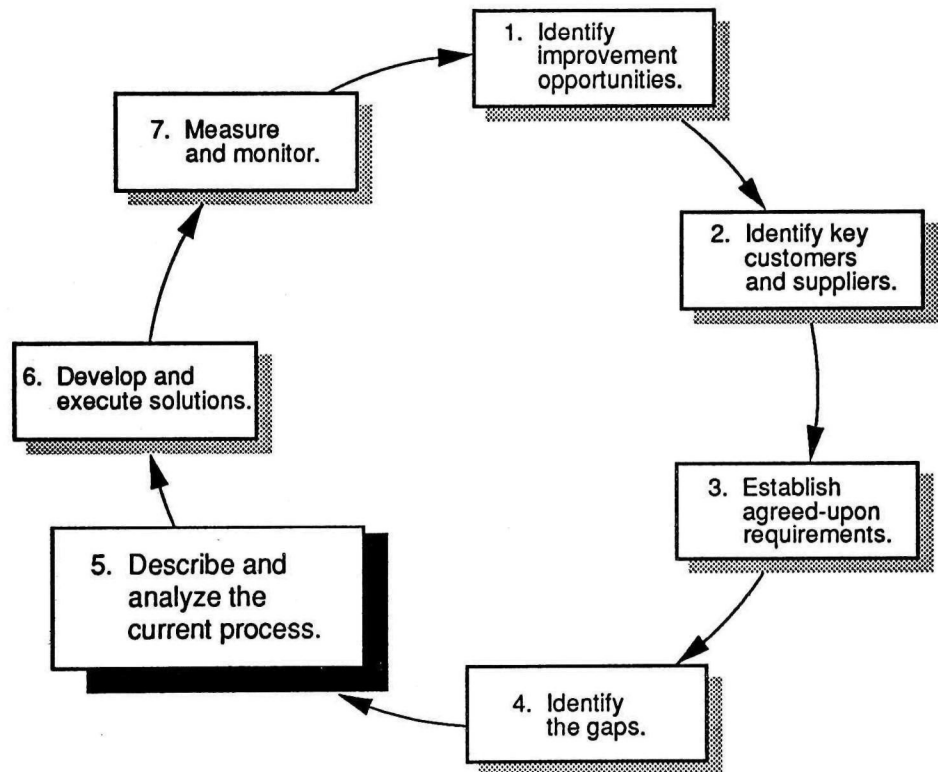
- Flowchart processes to understand how things work *now*.
- *Focus* on bottlenecks, nonvalue-added steps, and rework.
- *Analyze* the root causes of breakdowns using the *why* technique and other quality improvement tools.
- Ask, "Does the current process consistently meet customer requirements?"
- If the current process can meet requirements, fix it so that it meets them every time.
- If the current process cannot meet requirements, *develop* a new process.
- Use contingency diagrams and prevention checklists to anticipate and eliminate problems.
- *Execute* your action plan for improving the process.
- Establish comprehensive measures and feedback systems.
- Document results.

In previous modules, you have been introduced to the quality blueprint for continuous improvement. The blueprint is intended to emphasize the need for quality to be seen as a comprehensive process that includes, but goes beyond, effective problem solving. Paying serious attention to key customers and their requirements is central to the success of total quality implementation. Once those requirements have been established, gaps have been identified, and an opportunity for process improvement has been selected, it is equally important to engage in effective problem solving. This video reinforces the FADE model. This model provides the people in your organization with a common language and set of problem-solving tools that they can use in quality action teams to improve all your products and services.

Discussion Questions

1. What are some of the ways in which quality action teams will be important to you and your quality improvement process?
2. What seemed important to the success of the team's process in the video?
3. What do you believe will be important in your role with respect to the success of your quality action teams?

In step 5 of the quality blueprint we move from doing right things to doing things right. Once you have a clear sense of your customers' requirements and any existing gaps, you can describe and analyze the process to target problem areas blocking execution.

Step Five

Exercise

Applying the Quality Blueprint—Step Five

In this exercise, you will apply several problem-solving tools to describe the work process you have selected and identify possible causes for problems.

These tools include the flowchart, the fishbone diagram, the *why* technique, and Pareto analysis. The following pages contain a brief description of each tool along with more detailed instructions about how to use it.

Directions

Step 1. With your group, construct a flowchart of the process you have selected for improvement.

- Identify the problem areas, redundancies, or gaps in the process as it currently exists, keeping in mind customer requirements.
- Pick one of these problem areas or opportunities for improvement on which you will work further to determine root causes.

Step 2. Use a fishbone diagram to brainstorm possible root causes of problems that appear in the flowchart.

Step 3. As an option, you may want to use the *why* technique to uncover any additional root causes.

Step 4. Construct a Pareto diagram to help separate the root or most influential causes from the rest.

Tool

Flowchart

What It Is




A drawing that shows the steps of a work process in the sequence in which they occur.

What to Use It For

- Understanding and improving the work process
- Creating a common understanding of how work should be done

How to Use It

The main elements of a simple flowchart are

-  Box — activities
-  Diamond — decision points
-  Arrow — direction of flow from one activity to the next

Step 1. Gather a group of people who represent the various parts of the process you have selected. For the purposes of learning how to flowchart, if you do not have key players present, try to take the perspective of those players and describe the current process as best you can.

Step 2. Decide where the process begins and ends.

Step 3. Brainstorm the main activities and decision points in the process, writing each activity on a separate Post-it.

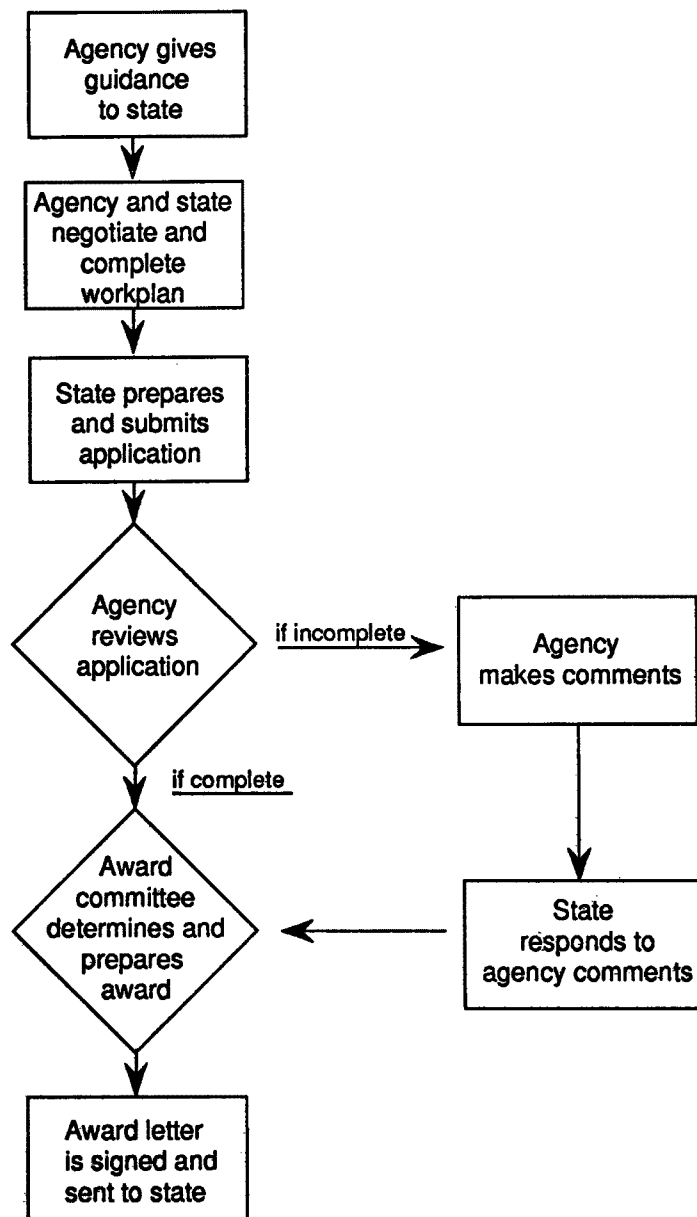
Step 4. Arrange these activities and decision points in their proper order, using arrows to show direction of flow.

Step 5. As needed, break down the activities to show their complexity.

Example

The Clearwater Agency wanted to examine the steps involved in working with the states to best coordinate the efficiency and quality of the grant process. They decided to first determine the process they were currently using. A team of four people involved in different aspects of the grant process met to identify the major steps in the process. From the master chart below, individual departments met to establish more specific flowcharts. Taking into consideration internal and external customer requirements, they were then able to identify inefficiencies and opportunities for improvement in the flow of the grant process.

Flowchart for Clearwater Grant Process



Keep in Mind

-
- Flowcharts make sense only when there is a standard flow to the work process.
 - When the process is complex, draw a simple sequence of events first; then make up additional flowcharts to show the details within complex portions of the work.
 - Flowcharts can be done from top to bottom or from side to side.
 - It is important to determine initially the beginning and end points.

Tool

Fishbone Diagram

What It Is

A diagram showing a large number of possible causes for a problem. Detailed causes are attached to a small number of main causes so that the completed diagram looks something like the skeleton of a fish.

What to Use It For

- Getting the big picture of a problem
- Facilitating team members' use of their personal knowledge to identify causes of the problem
- Providing ideas for data collection and/or solutions

How to Use It

Step 1. Write the problem on the right side of a flipchart. Draw a large arrow that points toward the problem.

Step 2. Draw arrows indicating the main types of causes (or contributing factors) and pointing toward the central arrow.

Step 3. Brainstorm for specific causes. Attach each specific cause to an appropriate main cause.

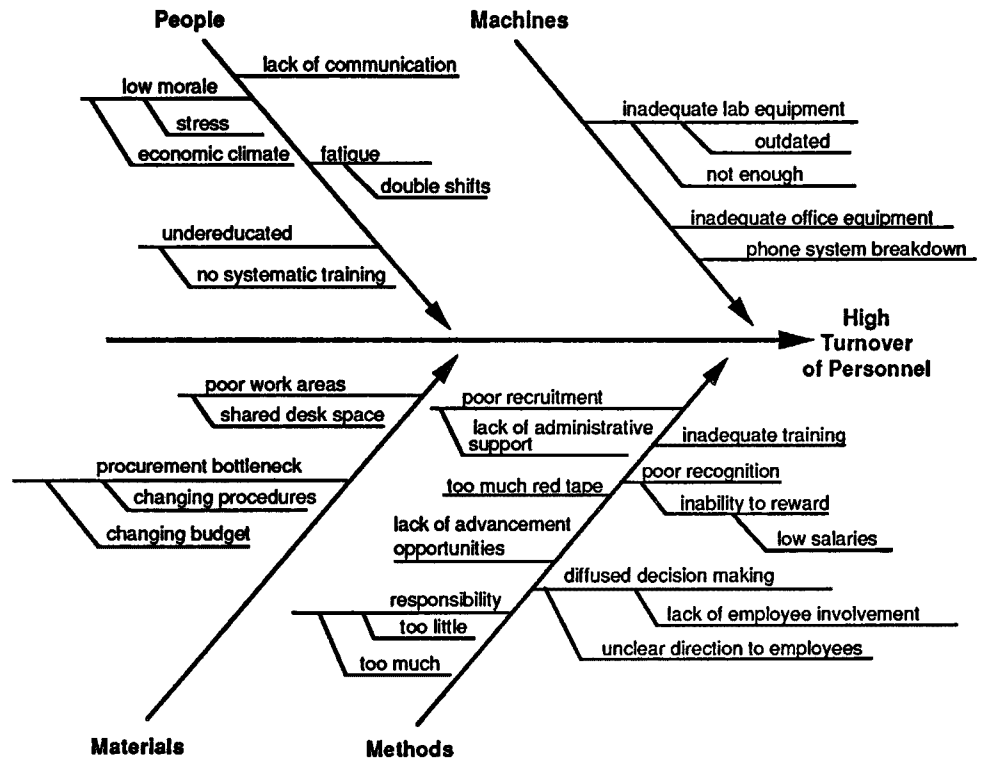
Step 4. Break down the causes further by brainstorming for subcauses.

The most commonly used categories of causes are people, machines, methods, and materials. These categories usually apply to a wide range of problems, and using them guarantees that most of the relevant causes will be put into the diagram. Some other possibilities include policies, procedures, and environment.

Example

At the top of the next page you will see an example of how fishbone analysis was used at the Jefferson Health Services Agency to identify the causes for the high turnover rate of personnel. Using the categories of people, machines, materials, and methods, a team of supervisors identified possible causes.

High Personnel Turnover Fishbone



The group decided to display their thinking in a very visible, accessible area and invited others in the agency to add to or change the categories and items. They determined that the primary causes over which they had control were in the area of methods. They were then able to gather further data to clearly identify the primary causes of the problem and to work on solutions.

Keep in Mind

- The most commonly used categories of causes are people, machines, methods, and materials.
- The fishbone diagram only shows possible causes. If in doubt, check your ideas with data.
- In most cases, it is not of great importance where on the diagram you put a particular cause.
- Fishbone diagrams are very useful when displayed publicly. You can invite people to add causes, and you can show what progress is being made in eliminating the causes.
- You may want to make a second or third fishbone diagram based on the first fishbone diagram.

Tool

The *Why* Technique

What It Is

The *why* technique is an alternative technique to the fishbone method for uncovering the root causes of problems. If a root cause is beyond your control, it should be brought to the attention of others in your organization who can do something about it.

What to Use It For

- Identifying root causes
- Probing for fundamental causes underlying more obvious causes
- Accessing causes in an uncomplicated manner

How to Use It

Step 1. Select a problem. Ask, “Why did the problem occur?”

First layer cause(s):

Step 2. Take the cause(s) that you uncovered in the first box, and ask the *why* question again.

“Why did that happen?”

Second layer cause(s):

Step 3. Continue asking *why* until you believe you have uncovered the most important causes.

“Why did that happen?”

Third layer cause(s):

“Why did that happen?”

Fourth layer cause(s):

“Why did that happen?”

Fifth layer cause(s):

Tool

Pareto Analysis

What It Is

A bar chart (Pareto diagram) that visually represents the distribution of occurrences being studied. The most frequent occurrence is represented at the far left, with other occurrences represented in descending order to the right.

What to Use It For

Identifying the one or two situation categories in which most of your problems occur

How to Use It

Step 1. Define the categories to be used in your diagram.

Step 2. Sort the data into categories. Arrange the categories in descending order as defined by the data.

Step 3. Make a bar graph based on the data, with the highest category on the left.

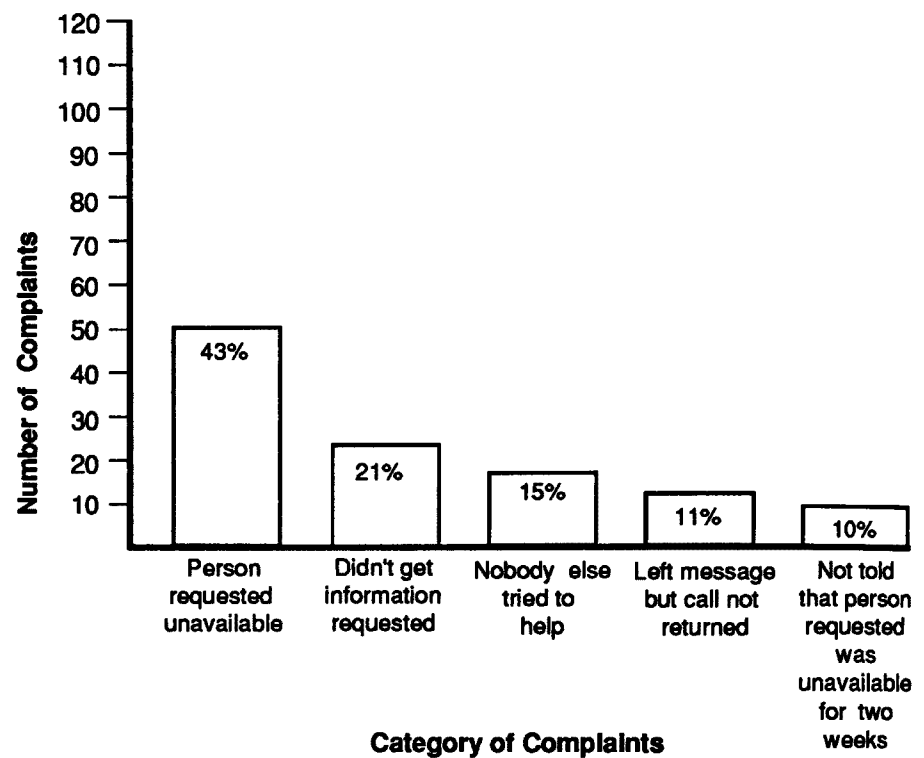
Step 4. Check your diagram for a Pareto pattern (in which the highest categories are responsible for most of the effects).

Step 5. Use the Pareto diagram as a guide to action or to further analysis.

Example

A division of Morton's Service Agency was interested in determining the most frequent concerns expressed by customers when they called the agency for information. The division formed a representative QAT in which they determined what they needed to know and developed a survey to gather the information. They then polled a random sampling of customers over a one-week period and charted the results on a Pareto diagram.

Most Frequent Customer Telephone Complaints



The QAT found the results very helpful. The top category (43 percent) was that the person requested by the caller was unavailable. Realizing that the agency could not always control availability, they combined that category with the second highest, that the caller did not get the information requested (21 percent). They decided that the callers who could not speak directly with the person requested could at least be helped with necessary information by someone else. Therefore, the QAT decided to determine solutions for helping customers get the information requested on the first call.

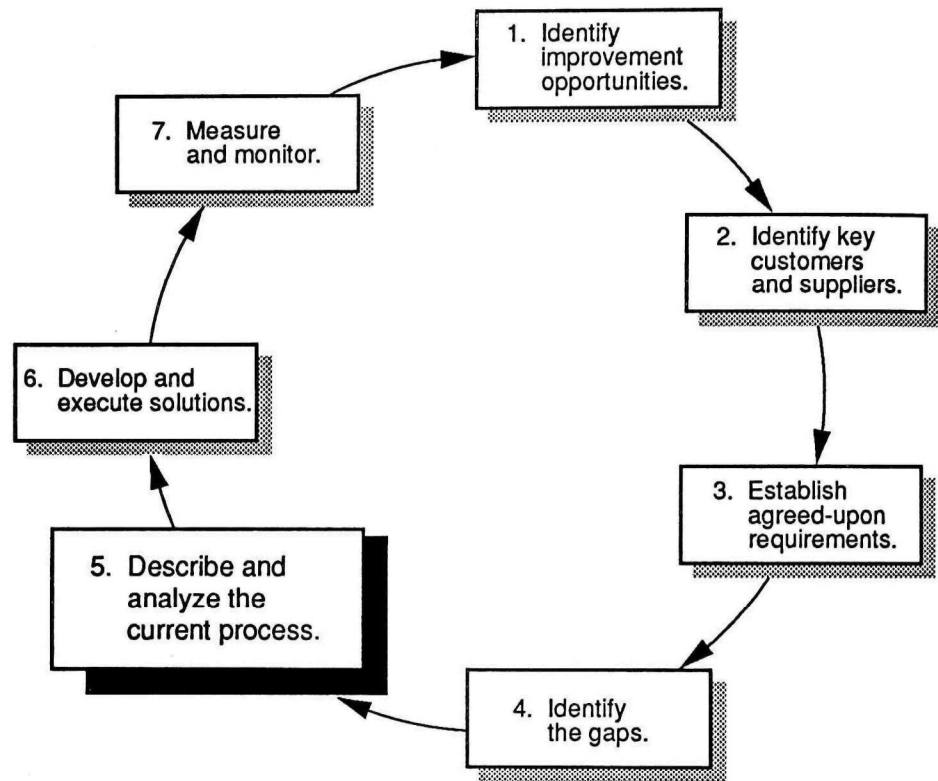
Keep in Mind

- Find appropriate categories by asking the questions what, where, when, who, why, and how.
- Most problems require more than one Pareto diagram, each exploring a different question.
- Draw the diagrams you want before you begin to collect data. Include the subcategories and a unit of measure.

-
- The information in the Pareto diagram can tell you where to focus in solving the problem. If the diagram does not give you enough information to proceed to solutions, it may still suggest what to investigate next. Typical next steps are a fishbone diagram, a flowchart, or more Pareto diagrams (based on new data).

When we have uncovered the root causes of our quality problem, we can move to step 6 of the quality blueprint, developing and executing solutions.

Step Six



Exercise

Applying the Quality Blueprint—Step Six

In this exercise, you will apply several problem-solving tools to develop a solution to the problem you have selected and then implement the solution. These tools include: force-field analysis, contingency diagram, and action plan. The following pages contain a brief description of each tool along with more detailed instructions about how to use it.

Directions

- Step 1.** Brainstorm a list of possible solutions and select one that appears most promising (multivoting and/or selection grid may be useful here).
- Step 2.** After you have selected a solution, use a force-field analysis to identify both the driving forces that will help implement your solution and the restraining forces you may face.
- Step 3.** Choose a restraining force over which your group has some control, and use the contingency diagram to come up with ways to ensure that the restraining force worsens.
- Step 4.** Drawing on your force-field analysis and contingency diagram, develop an action plan to implement your solution.

Tool

Force-Field Analysis

What It Is

A method for listing, discussing, and dealing with the forces that make possible or obstruct a change you want to make. The forces that help you achieve the change are called *driving forces*, and the forces that work against the change are called *restraining forces*.

What to Use It For

- Determining if a solution can get needed support
- Identifying obstacles to execution
- Suggesting actions for reducing the strength of the obstacles

How to Use It

Step 1. Draw a force-field chart (a large T).

Step 2. Write the current situation at the top center of the chart.

Step 3. Write the desired situation at the top right of the chart.

Step 4. Brainstorm for driving forces (pushing toward what you want) and enter them on the left side of the chart.

Step 5. Brainstorm for restraining forces (preventing you from getting what you want) and enter them on the right side of the chart.

Step 6. Discuss the chart and determine which factors can be altered to increase the chances of success.

Step 7. Decide whether your solution is doable. If it is, make a list of action items to alter the forces. If it is not, develop another solution.

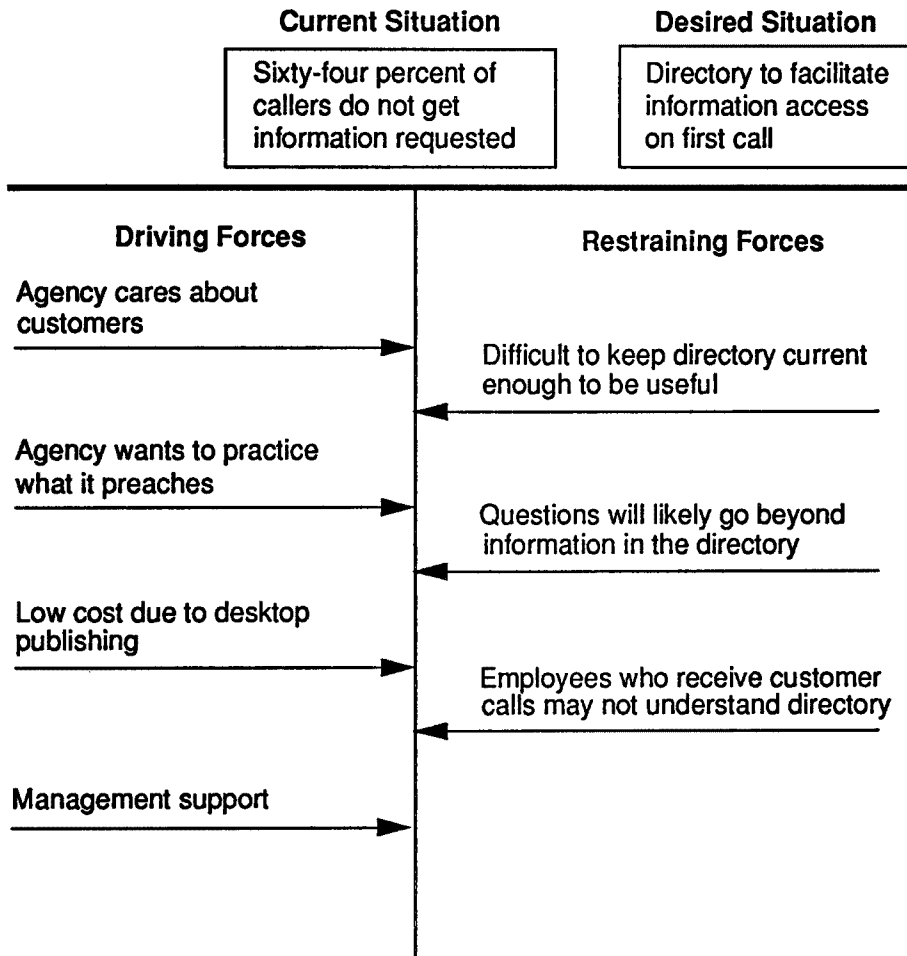
Example

In Morton's Service Agency, a division decided to try to resolve the problem of customers not receiving information they requested at the time of calling. The QAT working on the problem decided that, while they could not always reach the specific person requested by the caller, they could try to find out the information needed by the caller and determine if someone else was available who could help.

One solution they were considering was to develop a division directory identifying key people in various areas of expertise as well as back-up people in each of those areas. Before presenting

their solution to management, the group used a force-field analysis to determine obstacles and to see how they could increase the success of the solution.

Morton Service Agency's Force-Field Analysis of Caller Satisfaction



The QAT decided that an important restraining force was difficulty keeping the directory current. They decided to put the directory in a format that could easily accommodate changes. They also decided to come to their weekly meetings prepared to do a quick update of any changes.

In order to address the restraining force of information that went beyond the directory, the group decided to keep a log next to the phone to be filled in any time the directory was insufficient to help direct the caller to a person who could be of help. They would then make necessary additions to the directory based on the log.

Keep in Mind

-
- You should always finish a force-field analysis by making a list of action items.
 - If restraining forces are too overwhelming, consider a different solution.

Tool

Contingency Diagram

What It Is

A creative method to brainstorm and outline a list of opportunities for improving a given situation.

What to Use It For

- Imagining worst-case scenarios and developing a prevention checklist based on those scenarios
- Generating creative solutions
- Drawing on the creative, uninhibited energies of a group

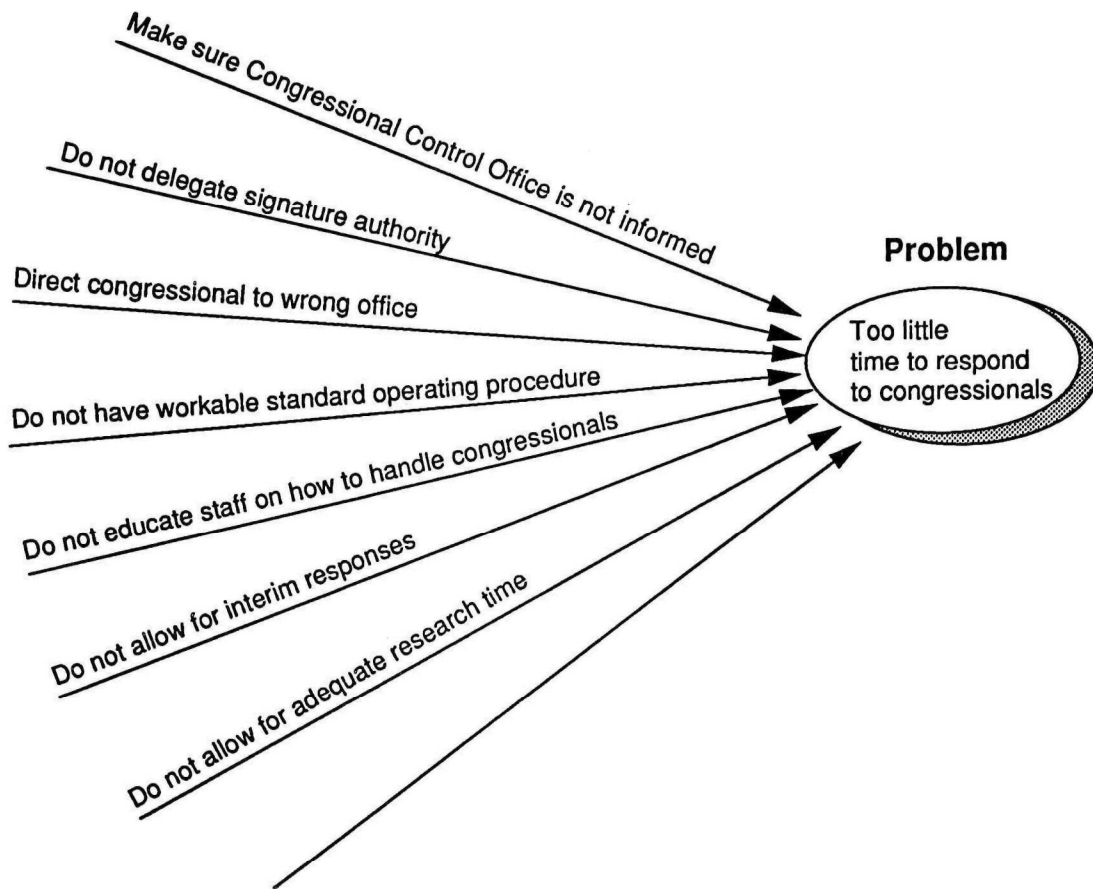
How to Use It

- Step 1.** Draw a contingency diagram and prevention checklist. (See the example on the following page.)
- Step 2.** Select a situation that you would like to prevent and write it in the oval.
- Step 3.** Brainstorm actions that would cause the problem to continue or worsen, and write those actions on the lines next to the oval.
- Step 4.** Describe actions that would prevent the situation from continuing or worsening (the opposites of the actions you have written on the lines). List these actions as specifically as possible on the prevention checklist.

Example

On the following page is a contingency diagram for a recurring problem: too little time to respond to congressionals.

Contingency Diagram



Prevention Checklist	
✓	Develop a specific plan to educate people in Congressional Control Office
✓	Have signature authority as close as possible to where answer resides
✓	Have a QAT review SOP to ensure it is made useful
✓	Allow for interim informational updates
✓	

Tool

Action Plan

What It Is

An outline of who will do what, when, and by what methods. It ensures that nothing is left to chance as you set out to implement a new way of doing things.

What to Use It For

- Planning the implementation of a solution
- Coordinating data collection

How to Use It

Create a chart that shows your plans in an organized way. Include answers to the six questions below.

Step 1. What needs to be done (i.e., specific tasks, arrangements, etc.)?

Step 2. When does each task need to be done (do some tasks need to be completed before others; when should each task be finished)?

Step 3. Who will do each task?

Step 4. How will it be done (i.e., specific methods)?

Step 5. What resources are needed (i.e., materials, equipment, expert advice, etc.)?

Step 6. Are there special circumstances or needs that should be taken into account?

Example

A committee interested in a more efficient and productive system for responding to congressionals decided, after doing a contingency diagram, that one action they needed to take was to educate the people in the Congressional Control Office about the best procedures for responses. They developed the action plan on the following page.

Action Plan for Educating the Congressional Control Office

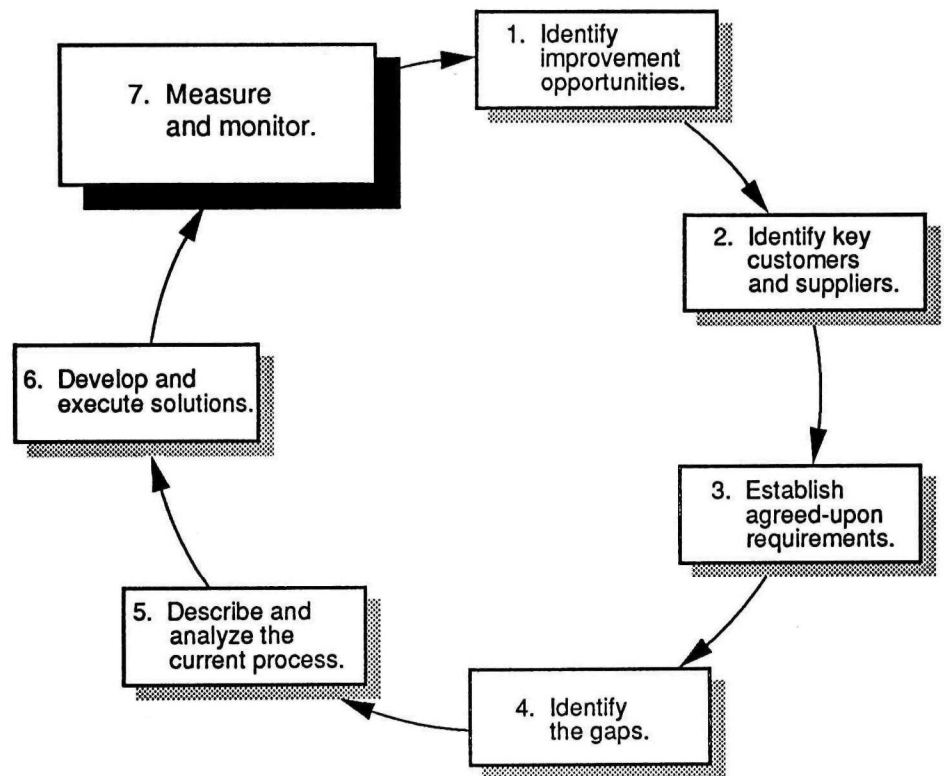
Action to Be Taken	Date Completed	People Responsible	Method	Resources Needed	Special Needs
Gather data to determine necessary components of training	10/30	Sam Myra	<ul style="list-style-type: none"> • Develop survey • Pilot survey • Conduct survey 	Desktop publishing	<ul style="list-style-type: none"> • Data analysis assistance • Advice on survey questions
Develop training program	11/30	Sally Roy	Follow model used in telephone training program		
Print training booklets	12/15	Rita Joe	Publishing department	Check with Publishing	<ul style="list-style-type: none"> • Editing assistance • Lowest possible cost
Provide list of people to be trained	11/30	Ralph	Check with Mark at Control Office		
Arrange for training logistics	12/5	Martha	<ul style="list-style-type: none"> • Find location • Organize supplies • Coordinate times 	Help from Sally and Roy in identifying needs	Lowest possible cost
Conduct training	12/24	Sally Roy	Experiential, using cases	<ul style="list-style-type: none"> • Flipcharts • Markers • Training booklets • Note paper • Pencils 	Correct number of chairs around tables put into square

Keep in Mind

- Put the action plan in writing.
- Do not worry about filling in the columns one at a time. The parts of the action plan can be filled out in any order.
- You can use a flowchart to show the sequence of activities.

In the previous step we created an action plan to improve one of our work processes. In step 7, we develop measures to monitor the results of these improvement efforts and to target new opportunities.

Step Seven



To implement quality successfully, we must know how to measure whether we are doing the right things right. If we select useful measures, we can learn whether we are getting better at meeting customer requirements and where we need to make improvements in our work processes.

Before you develop new quality measures or revise old ones, review the following fundamental guidelines.

1. *Establish a baseline.* Establish a baseline for each of your measures and refer back to it. Knowing where you started tells you what progress you have made.
2. *Keep it simple.* Clear, relevant measures give you and everyone else in the organization important information. Measures that are too complicated or too numerous will probably be ignored.
3. *Use action-oriented measures.* Choose measures that provide information you can use to make decisions, take action, or evaluate the success of a current activity. The data should let you know where to focus energy and improvement efforts. Measuring the number of complaints may present you with important data, but measuring the number of complaints *by type* will tell you where to begin addressing problems.
4. *Look for frequent performance problems.* Over time, your measures should enable you to detect frequent variations from agreed-upon performance. Frequent variations often stem from common causes and, therefore, have a higher priority for action than a performance problem that might happen once. A manager may want to learn why responses to customer inquiries take over an hour. The manager will not gain much from investigating the one response that took over two hours because of a major power failure.
5. *Use both process and results measures.*
 - a. Use *process measures* to make sure you are doing what needs to be done to achieve your desired outcomes. To develop process measures you must first identify the desired result. Then ask, "What would we have to do to be able to reach this result?" The process measure should warn you when a result is in jeopardy. The process measure may include tracking the use of quality techniques.

For example, you may identify lower turnover as your desired outcome. After talking with employees, you decide that the way to reach this result is to involve more employees in problem solving. A relevant process measure would be the number of employees on problem-solving teams.

- b. Use *results measures* to verify and control the outputs of your work process. These measures focus on outcomes, deliverables, or accomplishments such as total services provided, on-time deliveries, and number of new products.

6. *Use both self-measures and customer-focused measures.*

- a. *Self-measures* are measures chosen to track work group success that may not be important or visible to your customer but are important to you. One example of a self-measure is the amount of overtime required to complete a production order on schedule.
- b. *Customer-focused measures* are measures of what is important to your customer and what you promise to provide, such as percentage of on-time deliveries or completion of work that meets customer specifications.

These last two guidelines will help you select a comprehensive and balanced set of measures.

Tool

Measurement Matrix

What It Is

A device to assist people in thinking about measures to help ensure that they are doing right things right.

What to Use It For

- Developing a comprehensive set of quality measures for a work group, department, or individual
- Establishing early warning signals to take advantage of the 1-10-100 rule

How to Use It

Step 1. Develop measures to track your quality improvement efforts. Use the following questions as guidelines:

- **Self–Process:** What early warning signs will be especially important to me in tracking how work is done?
- **Self–Results:** What will I accomplish that might be invisible to my customer, yet critical to me?
- **Customer–Process:** What early warning signs will concern my customer regarding how work is done?
- **Customer–Results:** What will I accomplish that is chosen by, or based on feedback from, my customer?

Step 2. Display your measures in a measurement matrix.

Step 3. Check that you have

- Included measures important to you as well as measures important to your customer
- Considered measures as early warning signals as well as a tracking device

Example

Measures Developed by a Customer Service Group

	Process	Results
Self	$\frac{\text{Instances missing customer data}}{\text{No. of sales}}$	$\frac{\text{No. of repeat trouble reports}}{\text{Trouble reports}}$
	$\frac{\text{No. of rescheduled service calls}}{\text{Total calls}}$	$\frac{\text{No. of service callbacks}}{\text{No. of calls made}}$
	Recall and repair expenses	$\frac{\text{No. of service calls}}{\text{Units sold}}$
Customer	$\frac{\text{Repair commitments met}}{\text{Total repair calls}}$	On-time service calls
	$\frac{\text{Seconds waiting time}}{\text{Call}}$	Percent service manuals accurate

Exercise

Developing Quality Measures—Step Seven

In this exercise, you will work on developing quality measures that will help you track your progress in implementing the quality blueprint in your work group.

Directions

Step 1. Devise measures for the process you have chosen by answering the questions in each of the four categories of the measurement matrix. Record your measures on the worksheet on the following page.

Step 2. Read the reference pages on process variation as well as the measurement tools—trend chart and specifications and control limits—which follow.

- Think about areas in which there is variation in the work process you have chosen.
- Brainstorm examples of special causes and common causes for that variation.
- What data would you need in order to determine whether to take preventive action?

	Process	Results
Self	What early warning signs will be especially important to me in tracking how work is done?	What will I accomplish that might be invisible to my customer, yet critical to me?
Customer	What early warning signs will concern my customer regarding how work is done?	What will I accomplish that is chosen by, or based on feedback from, my customer?

We have looked at guidelines for determining what to measure. It is also important to know how to measure the variation that exists in all processes.

No violinist, no matter how highly skilled, can perform a composition in precisely the same way he or she played it in a previous concert. No machine, no matter how finely tuned, can produce unit after unit of exactly identical output. The amount of variation may be very small—perhaps so small that only the most sensitive instruments can detect the difference—but there will always be some variation. It is an inescapable reality.

Causes of Variation

There are many possible causes of variation in a work process. For example, some of the typical causes of variation in a service process are

- Design of the work allocation system
- Choice of equipment
- Maintenance procedures
- Change in source of information
- Environmental change (temperature, humidity, etc.)
- Accidents
- Employees' mistakes
- Supplier input

The causes of variation in any process can be divided into two fundamentally different types—common (or system) causes and special causes.

Common causes (or system causes) are the causes of variation that are built into the process, that is, the ones that are usually expected to occur, given the way the process or system is designed.

Special causes are those causes that are not built into the process, that is, ones that in fact disrupt the normal operation of the process and are not expected.

A homespun example may help to clarify this important distinction between common and special causes. Imagine that someone is cruising along a New England highway on a beautiful autumn day, admiring the changing colors of the leaves. Traffic is light, the car is running fine, life is good. Suddenly the driver feels a jolt and the car lurches to the left; then, just as quickly, the car recovers and is once again running smoothly toward the distant hills. This example demonstrates the type of variation that arises from a special cause. Something unusual happened, something quite different from the normal variation caused by the running of the engine and the tires rolling on the pavement. Was it a pothole, or a rabbit crossing the road, or the first sign of an impending problem with the front-end suspension of the car? The driver had better look into it and find out.

Suppose, on the other hand, that your car makes a rattling noise when you accelerate quickly and that it has always done so. You know that your make of car tends to do this as a result of its catalytic conversion system. So you attribute the rattling noise to a probable common cause, the catalytic converter.

You can eliminate variation that arises from special causes by analyzing the cause and developing a solution. Finding and eliminating the special causes of variation in a work process is part of the job of the people who work in the process.

Because the variation arising from a common (or system) cause is built into the process, the only way this type of variation can be reduced is by changing the process. Consequently, the only people who can affect the common causes of variation are those who are empowered to change the process itself.

Tool

Trend Chart

What It Is

A way to describe what is happening by summarizing quantities of data in a simple visual display.

What to Use It For

- Graphically depicting data over time
- Depicting changes not only in raw numbers, but also in percentages and averages

How to Use It

Step 1. Choose a measure and put it on the vertical axis.

The measure you choose will depend on the nature of your solution. It could be number of errors, dollars saved, percentage of instances, or whatever.

Step 2. Choose a time interval for taking measurements and put it on the horizontal axis.

You may want to monitor hourly, daily, weekly, or monthly. Again, the interval must be suited to your solution.

Step 3. Enter your measurements—data points—chronologically onto the chart.

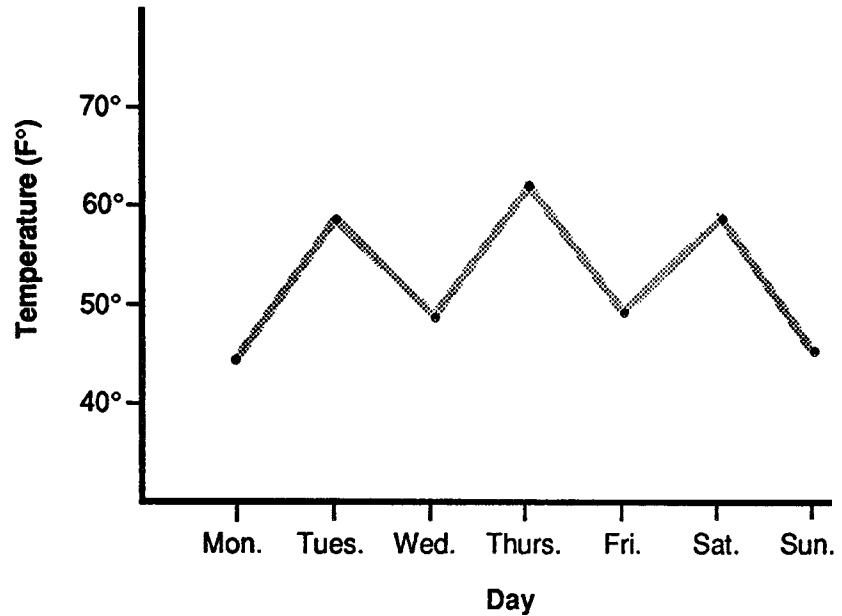
Do this continually as data become available. If you wait for a long time and record all your data at once, you will miss opportunities for immediate action.

Step 4. Draw a line connecting the data points.

Once you have constructed a trend chart, you can look for patterns. Comparing new data with old data will often show a dramatic improvement. If you do not see the change you want, check whether the procedure is being implemented correctly or if modifications are needed. Find the causes for the problems that the chart uncovers.

Example

Temperature over a Seven-Day Period



By plotting the average daily temperatures in this format, it is easy to see that temperature variations follow a consistent pattern. Indeed, if we extended the trend chart over many weeks, we would be able to determine what season we were in. One or two unusual temperature readings (eighty degrees against a range of forty-five to sixty degrees) would not necessarily signal the beginning of summer. But a series of higher temperatures might prompt you to begin shopping for bathing suits.

In a similar way, if managers plot various performance measures over time, they can recognize normal versus abnormal patterns in work processes.

Tool

Specifications and Control Limits

What They Are

Specifications are indicators of the level of performance you want or need.

Control limits are indicators of how the process usually performs; they are calculated by applying mathematical formulas to the past history of the process.

What to Use Them For

- Specifications can be used for monitoring your process so that you can see at a glance whether it is giving you what you want.
- Control charts can be used for monitoring your process so that you can see at a glance whether it is doing something unusual (i.e., whether it is "out of control").

Both specifications and control limits can be shown on trend charts and can be used with other measurement tools.

How to Use Them

For specifications, use the following three steps:

Step 1. Construct a trend chart with lines drawn to show the specification limits.

Step 2. Enter new data points on the chart as the data become available.

Step 3. When you see a point outside the specification limits, use the FADE problem-solving process to find and remove the cause of the undesirable variation in your process.

For control charts, use the following four steps:

Step 1. Follow the procedure established by your organization for collecting samples, computing data points, and entering the data points on your control chart (i.e., a trend chart with upper and lower control limits added).

Step 2. As each new point is entered, examine the entire sequence of points displayed on the chart.

Step 3. Apply the guidelines below to determine whether your process is behaving normally (is *in control*) or is doing something unusual (is *out of control*).

The process is in control when the sequence of points displayed on the chart meets all four of the following criteria:

1. All points are within the control limits.
2. Most of the points are much closer to the process average than to the control limits.
3. About half the points are above the process average, and about half are below.
4. No clear pattern has emerged which would allow you to predict where the next point seems likely to fall.

The process is out of control when the sequence of points displayed on the chart exhibits any of the following conditions:

1. One point falls outside the control limits.
2. There are two consecutive points close to one of the control limits.
3. The points have begun to fall predominantly on one side of the process average.
4. A clear pattern has emerged which would allow you to predict where the next point seems likely to fall.

Step 4. After determining whether your process is in or out of control, take action as required. When your process is in control, no action is required. When your process is out of control, use the FADE problem-solving system to find and remove the cause of the abnormal variation.

Example

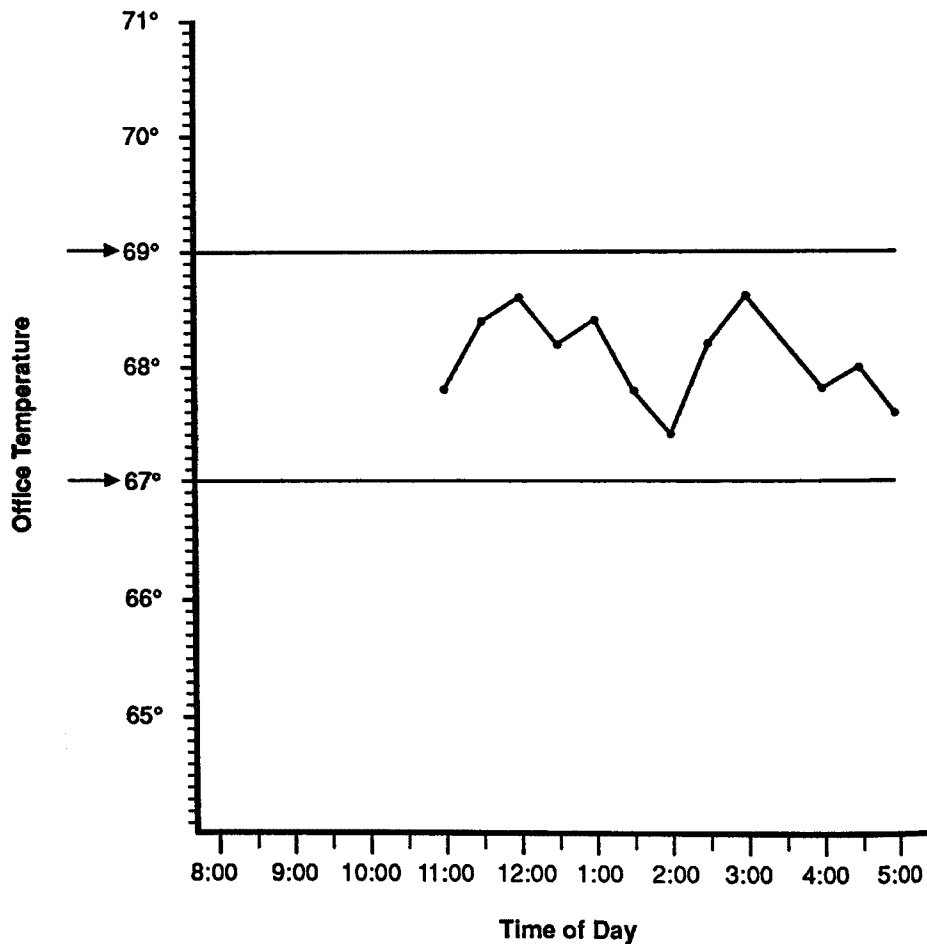
A team of office workers decided to tackle the long-standing debate about whether the temperature in their office was too hot or too cold. The temperature control system was supposed to maintain a constant temperature of 68 degrees during working hours. It had become an accepted practice, however, for anyone who felt cold to adjust the thermostat upward. Usually, someone

else soon began to feel that the office was too warm and pushed the thermostat down.

In an effort to resolve the dispute, the team persuaded everyone in the office to leave the thermostat alone for a one-week period so they could gather data on how the temperature control system actually performed. They also got everyone to agree that as long as the temperature stayed between 67 and 69 degrees, they would be satisfied.

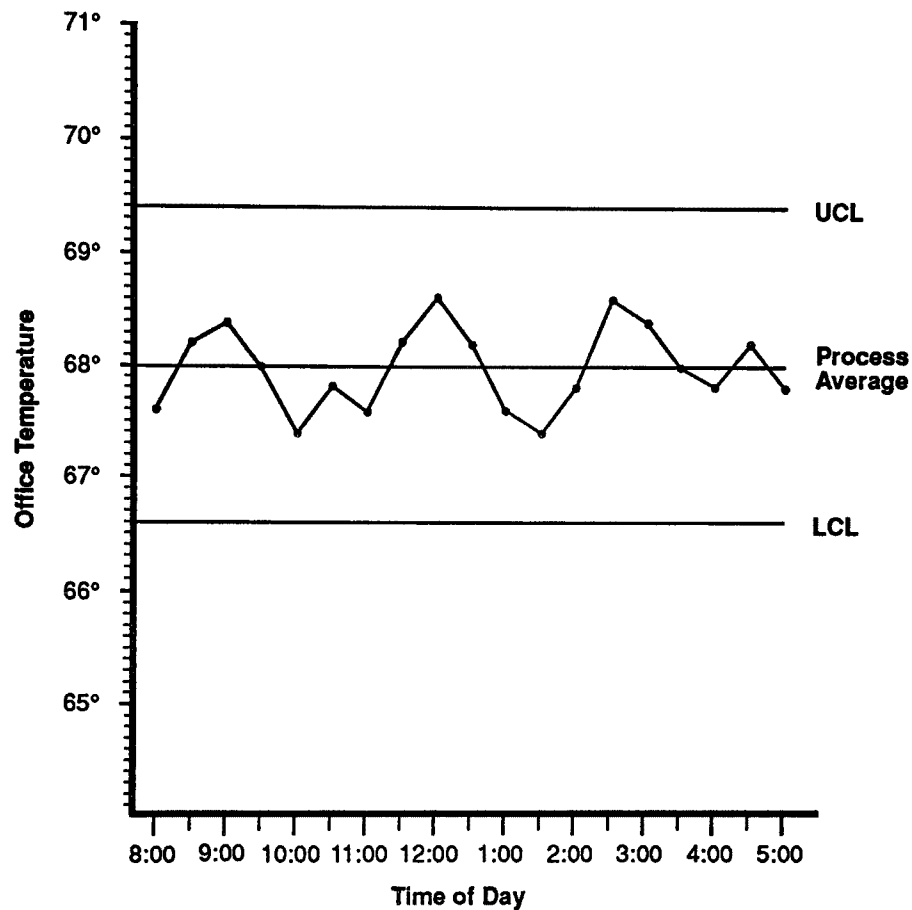
On Monday morning, the team borrowed a sensitive thermometer from the lab, set it up in a central location in the office, and started to take temperature readings every half hour, beginning at 11:00. At lunchtime two of the team members got some graph paper, constructed a trend chart with specification limits drawn in at 67 and 69 degrees, and began entering the data points. At the end of the day, the chart looked like this:

Trend Chart of Office Temperature



On Tuesday afternoon, using the data already collected, the team proceeded to calculate control limits and set up a control chart. The chart for Wednesday is shown below.

Control Chart of Office Temperature



The control charts for Thursday and Friday looked very much like the chart for Wednesday. After examining their control charts, the team concluded that the temperature control system could maintain a temperature very close to 68 degrees—when it was allowed to operate on its own, without human interference. When the team shared their data with the other people in the office, everyone agreed to leave the thermostat alone and put on sweaters if they felt cold.

Key Points

Continuous Improvement—Doing Things Right

Below are some of the key points in this module. Please add your own.

- Quality improvement involves doing things right along with doing the right things.
- The FADE problem-solving model is an integral part of the quality blueprint for continuous improvement.
- The people who are closest to working every day with your organizational processes are most often in the best position to identify and solve problems related to those processes.
- Working in teams to resolve critical issues helps people feel committed to following through with the solutions.
- Quality measures are essential to the success of your quality improvement efforts.
- It is important to pay attention to both process and results measures as well as special and common (system) causes of variation in work processes.
-
-
-

Contents

Leadership

Overview: Leadership	2
Discussion: Great Leaders of Today	3
Exercise: Using the Applied Leadership Questionnaire	4
Presentation: The Effective Leadership Model	9
Exercise: Assessing Your Employees' Independence Level	11
Presentation: Effective Use of the Four Leadership Styles	14
Exercise: Selecting Appropriate Leadership Styles for TQM	15
Exercise: Adapting Leadership Styles—Strategies	16
Key Points: Leadership	21

Quality awareness and team-based problem solving are necessary for total quality but not sufficient by themselves. An organization committed to quality must be led by managers who create an environment in which quality can flourish.

It is the leaders of the agency who will demonstrate in their actions a commitment to truly involving employees in decision making. The voice of the employees is important not only in order for employees to feel valued, but also so that those closest to the work processes can share information necessary for decisions that will best support the mission of the agency.

In this module we explore the manager's role as leader. We also look at the relationship between managers and employees. We learn how to use a range of techniques for managing and developing people with different abilities, skills, and experience.

Objectives

By the end of this module, you will be able to

- Assess your leadership style and its impact on your work unit
- Apply a leadership style that is appropriate to the characteristics of the groups that you manage
- Use leadership techniques to help your employees reach their full potential

Discussion

Great Leaders of Today

In this activity you will see how the characteristics of great leaders are similar and different from those of effective managers you have known.

Discussion Questions

1. Think of several people you feel are (or were) strong leaders in the world.
2. Identify characteristics that give (or gave) these people influence over others.
3. Think of the best managers you know (have known).
4. Identify the characteristics they have (had) that were not identified above.
5. Answer the following questions:
 - How are leaders and managers similar?
 - How are they different?

Exercise

Using the Applied Leadership Questionnaire

In this activity you will assess your leadership style.

Directions

- Step 1.** Read each statement in the questionnaire on the following pages and circle the number that matches your typical response. If you act differently with different employees, try to identify your most frequent response.
- Step 2.** Transfer the number that you recorded as your typical response to the line in "The Applied Leadership Grid—I" that corresponds to the statement.
- Step 3.** Add the scores in each section. Place the totals in the boxes provided.
- Step 4.** Write your total scores in the corresponding boxes in "The Applied Leadership Grid—II."

Questionnaire

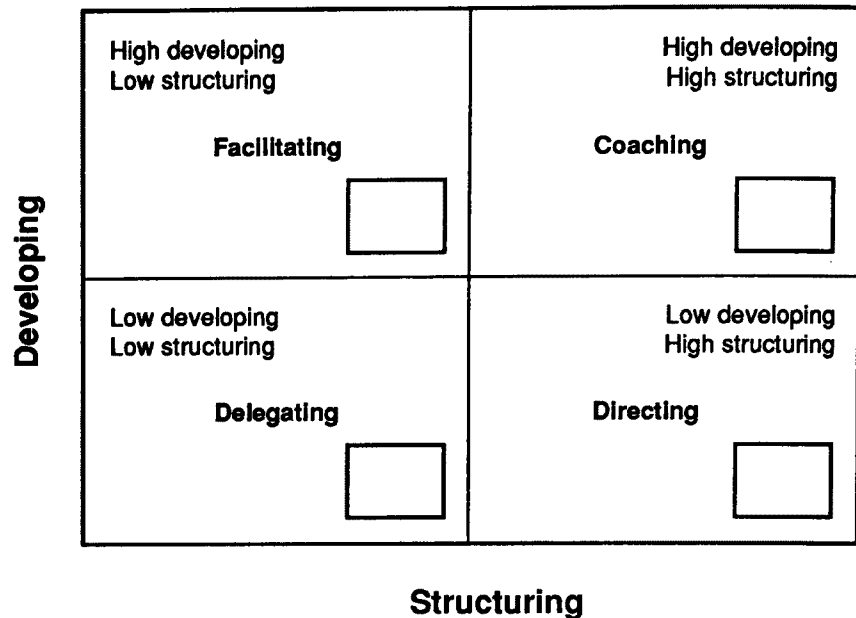
Your Leadership Style

	<i>To a very small extent</i>	<i>To some extent</i>	<i>To a moderate extent</i>	<i>To a great extent</i>	<i>To the greatest extent</i>
1. I check employees' work on a regular basis to assess their progress and learning.	1	2	3	4	5
2. I hold periodic meetings to show support for agency policy and mission.	1	2	3	4	5
3. I appoint employees to task forces to recommend action on policies affecting them.	1	2	3	4	5
4. I provide employees with clear responsibilities and allow them to decide how to fulfill them.	1	2	3	4	5
5. I make sure employees are aware of and understand all agency policies and procedures.	1	2	3	4	5
6. I recognize employees' achievements with encouragement and support.	1	2	3	4	5
7. I discuss any organizational or policy changes with employees prior to taking action.	1	2	3	4	5
8. I discuss the organization's strategic mission with employees.	1	2	3	4	5
9. I demonstrate each task involved in doing a job.	1	2	3	4	5
10. I regularly meet with employees to discuss their needs.	1	2	3	4	5
11. I avoid making judgments or premature evaluations of ideas.	1	2	3	4	5
12. I ask employees to think ahead and develop long-term plans for their areas.	1	2	3	4	5

	<i>To almost no extent</i> <i>To a slight extent</i> <i>To a moderate extent</i> <i>To a great extent</i> <i>To a very great extent</i>				
13. I set performance standards for each aspect of an employee's job.	1	2	3	4	5
14. I explain the benefits of achieving work goals to employees.	1	2	3	4	5
15. I rotate the role of meeting coordinator among my employees.	1	2	3	4	5
16. I emphasize the importance of quality, but allow my employees to establish the control standards themselves.	1	2	3	4	5
17. I have employees report back to me after completing each step of their tasks.	1	2	3	4	5
18. I hold regular meetings to discuss work status.	1	2	3	4	5
19. I provide employees with the time and resources to pursue their own developmental goals.	1	2	3	4	5
20. I expect employees to create their own goals and submit them to me in finished form.	1	2	3	4	5
21. I try to assign work in small, easily controlled units.	1	2	3	4	5
22. I focus on opportunities, not problems.	1	2	3	4	5
23. I avoid evaluating problems and concerns until after they are discussed.	1	2	3	4	5
24. I ensure that information systems are timely and accurate, and that information is fed directly to employees.	1	2	3	4	5

<div>3 _____</div> <div>7 _____</div> <div>11 _____</div> <div>15 _____</div> <div>19 _____</div> <div>23 _____</div> <div><div></div><div>Total</div></div>	<div>2 _____</div> <div>6 _____</div> <div>10 _____</div> <div>14 _____</div> <div>18 _____</div> <div>22 _____</div> <div><div></div><div>Total</div></div>
<div>4 _____</div> <div>8 _____</div> <div>12 _____</div> <div>16 _____</div> <div>20 _____</div> <div>24 _____</div> <div><div></div><div>Total</div></div>	<div>1 _____</div> <div>5 _____</div> <div>9 _____</div> <div>13 _____</div> <div>17 _____</div> <div>21 _____</div> <div><div></div><div>Total</div></div>

The Applied Leadership Grid—II

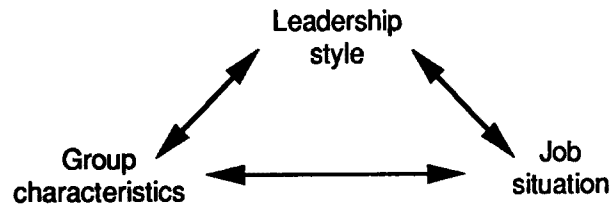


<p style="text-align: center;">Facilitating</p> <ul style="list-style-type: none"> • Involve employees in decisions that will affect their work. • Help employees feel free to ask questions and discuss important concerns. • Hold frequent team or staff meetings. • Help employees locate and suggest their own development activities. • Listen to employees' problems and concerns without criticizing or judging. 	<p style="text-align: center;">Coaching</p> <ul style="list-style-type: none"> • Represent management's position in a convincing manner. • Try to motivate with monetary and nonmonetary rewards. • Sell employees on their own ability to do the job. • Praise employees for good work. • Provide employees with a lot of feedback on how they are doing.
<p style="text-align: center;">Delegating</p> <ul style="list-style-type: none"> • Delegate broad responsibilities to employees and ask them to handle the details. • Expect employees to find and correct their own errors. • Provide employees with feedback on results. • Allow employees to take risks and innovate. 	<p style="text-align: center;">Directing</p> <ul style="list-style-type: none"> • Provide detailed instructions. • Give employees specific goals and objectives. • Check in frequently with employees to keep them on track. • Enforce rules and regulations. • Demonstrate the steps involved in doing the job.

The Effective Leadership Model

Being a successful leader means more than having a certain personality; it requires integrating your style with the group's characteristics and the job situation.

Dynamic Leadership Process

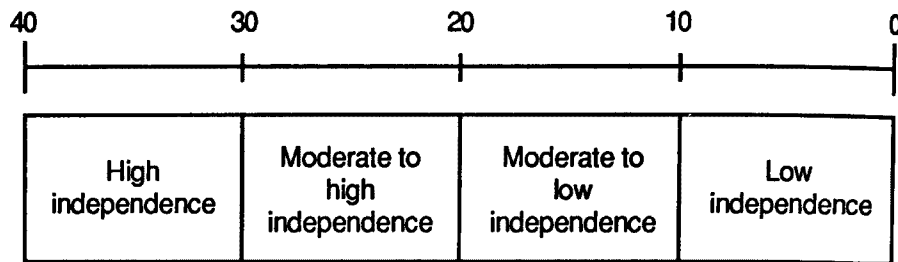


We have looked at four leadership styles: delegating, facilitating, coaching, and directing. Now we shall examine how the characteristics of group members can help us determine the most effective leadership style. In studying differences among groups at work, three characteristics seem to emerge.

1. *Ability*. This refers to expertise in the required skills and the speed with which the group can learn the tasks involved.
2. *Experience*. This refers to the group's experience with the work, combined with transferable skills or learned behaviors.
3. *Motivation*. This refers to the confidence and energy levels that are necessary to assume responsibility for new tasks and to complete them.

These three characteristics can be combined into a dimension that we call the *independence level*. This dimension is a continuum which, for our purposes, can be somewhat arbitrarily divided into the four segments defined on the next page.

Independence-Level Scale



- *Low independence.* The group is either new at the job or faced with complex, unusual tasks. The leader must assume that the group has little or no ability, few, if any, transferable skills, and low motivation or confidence. The leader must be highly directive. Support tends to be less important at this time, as both leader and group are most concerned with correctly performing the details of the job.
- *Moderate to low independence.* The group has some transferable skills and learns readily, but has never performed the tasks in this new assignment. This group is willing to try, but is slightly anxious about failing. The leader will have to provide a lot of support as well as clear, specific direction.
- *Moderate to high independence.* The group has significant ability on the job, is highly motivated and confident, but lacks specific experience in one or more aspects of a new assignment. This group requires support and some direction from the leader.
- *High independence.* The group is highly qualified to do the job, has done it successfully before, and is confident and very willing to take on new challenges without much direction or support.

To be effective, the leader analyzes the job requirements and the group's characteristics, and chooses an appropriate management style.

While this module focuses on how leaders match their style to the characteristics of their groups, these concepts and principles can easily be adapted to managing individuals.

Exercise

Assessing Your Employees' Independence Level

As we have seen, effective leaders match their leadership style to the independence level of their employees. In this exercise, you will practice identifying the independence level of the groups you manage.

Directions

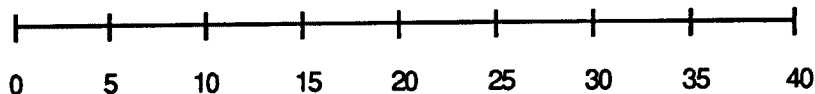
- Step 1.** Turn to the worksheet on the following page. On a scale of 0 to 40 evaluate a group you manage on the basis of three characteristics: ability, experience, and motivation. (40 = extremely high ability, experience, or motivation.) To do this, mark the appropriate value along the line provided for each characteristic. Then place the score in the space provided.
- Step 2.** Add the three scores for ability, experience, and motivation. Then divide by three to get a final independence-level score.
- Step 3.** Plot this number on the independence-level scale.
- Step 4.** Now that you have determined the group's independence level, refer back to "The Applied Leadership Grid—II." Note the score that best represents your leadership style and make a mark in the corresponding quadrant in the worksheet, "Leadership Grid."
- Step 5.** Mark your group's independence-level score on the scale below the quadrants. Draw a perpendicular line connecting the independence-level score with the curve in the quadrants above. This will indicate the management style that is appropriate for that independence level.
- Step 6.** Compare this indicated management style with your dominant leadership style.

Worksheet

Independence-Level Scale

Ability

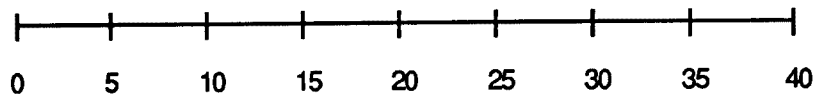
Refers to expertise and talent for the task, skills, and learning speed



Ability
Score

Experience

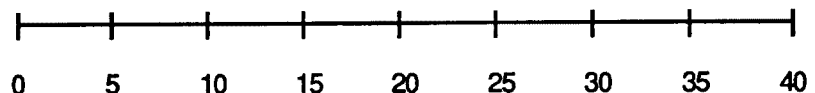
Prior experience in this type of work combined with any transferable skills or learned behaviors



Experience
Score

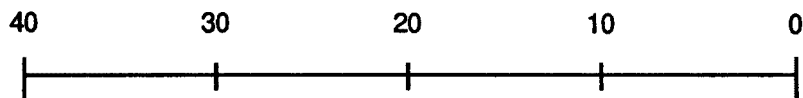
Motivation

The confidence and energy level necessary to take on and to complete new tasks



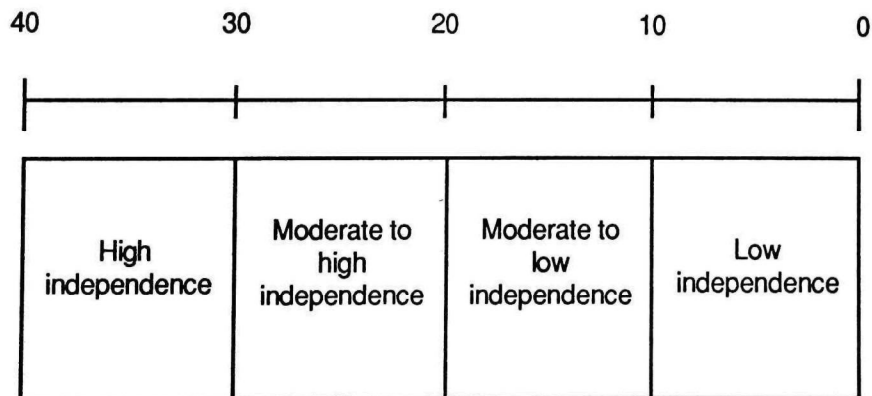
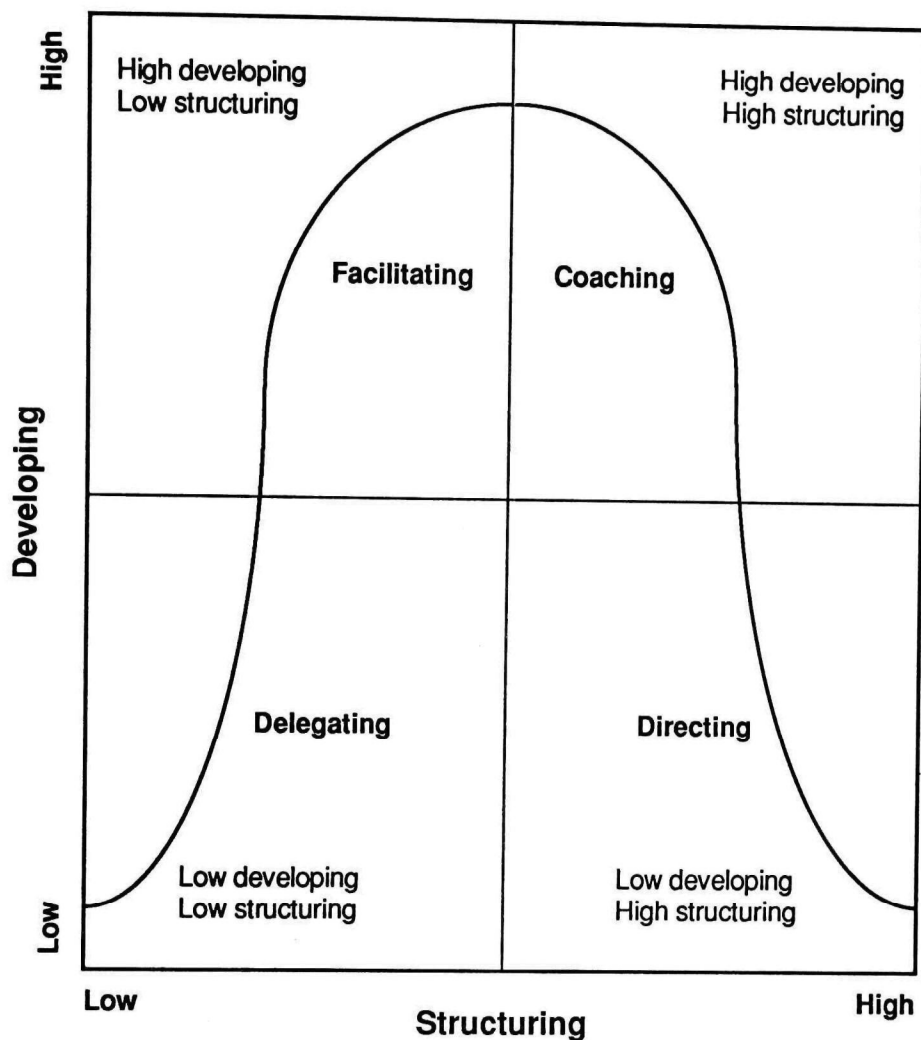
Motivation
Score

Total
Score



Total
Score + 3

High independence	Moderate to high independence	Moderate to low independence	Low independence
----------------------	-------------------------------------	------------------------------------	---------------------



Each of the four leadership styles has its strengths. To help groups act independently, managers must gradually move from directive management to more supportive management. Fully independent groups need less support.

In the model below, you'll review a variety of tactics for successfully applying the four styles. Note how you can use some of these tactics to motivate your employees to move from one quadrant to another.

The Four Leadership Styles

Facilitating <ul style="list-style-type: none">• Involve employees in decisions that will affect their work.• Help employees feel free to ask questions and discuss important concerns.• Hold frequent team or staff meetings.• Help employees locate and suggest their own development activities.• Listen to employees' problems and concerns without criticizing or judging.	Coaching <ul style="list-style-type: none">• Represent management's position in a convincing manner.• Try to motivate with monetary and nonmonetary rewards.• Sell employees on their own ability to do the job.• Praise employees for good work.• Provide employees with a lot of feedback on how they are doing.
Delegating <ul style="list-style-type: none">• Delegate broad responsibilities to employees and ask them to handle the details.• Expect employees to find and correct their own errors.• Provide employees with feedback on results.• Allow employees to take risks and innovate.	Directing <ul style="list-style-type: none">• Provide detailed instructions.• Give employees specific goals and objectives.• Check in frequently with employees to keep them on track.• Enforce rules and regulations.• Demonstrate the steps involved in doing the job.

Exercise

Selecting Appropriate Leadership Styles for TQM

In this activity, you will think about the appropriate leadership style for various TQM activities.

Directions

- Step 1.** Your facilitator will divide you into four groups, each of which will be assigned a different leadership style. In your small group, brainstorm a list of TQM activities that you believe would best be addressed by the leadership style you have been assigned.
- Step 2.** Narrow the list to the top three activities for which your group's leadership style is an appropriate match.

Exercise

Adapting Leadership Styles—Strategies

What follows are strategies for changing your leadership style to suit the independence level of your employees. Even though you have already determined your dominant leadership style, remember that effective managers adjust and adapt their style of leadership as necessary.

Directions

- Step 1.** Now that you have determined your dominant leadership style, select an employee who needs your leadership on a new task he or she is facing.
- Step 2.** Determine the independence level of that employee.
- Step 3.** Use the following reference pages to develop a strategy for using a leadership style best suited to that employee.

If your dominant style is *delegating*, and the employee you are trying to lead is at

- Independence Level 1* You are probably leaving this person in the dark. He or she needs more direction and requires the how, what, when, and where of tasks. For now, you can skip the why; he or she is too busy learning the basics to care. Write some goals and job descriptions for this person, and plan at first to devote at least 25 percent of your time to him or her. Give lots of feedback and have the employee regularly report to you.
- Independence Level 2* This person needs more direction. This person also appreciates praise and, in fact, needs support to get to the next level. He or she already has some good job knowledge and at times seems independent. Don't let that fool you. The employee still needs you at least 10 percent of the time for feedback and new ideas. Invest the time to help the employee develop.
- Independence Level 3* You may feel he or she doesn't need your help very much. With some, this is true, but with others, their work quality will suffer if they don't have a chance to bounce ideas off you with some regularity. An employee still needs meetings and problem-solving sessions, and will continue to benefit from the sharing of ideas. Arrange meetings and get-togethers so that a free flow of information and ideas can take place on a regular basis.
- Independence Level 4* You're right on in your leadership style. This employee can be left alone. But never make the mistake of ignoring the employee, or you'll lose him or her. Everyone needs praise and rewards, and everyone benefits from interaction. If you manage very independent people, let them know how important they are to you, and solicit their ideas on a regular basis.

If your dominant style is *facilitating*, and the employee you are trying to lead is at

- Independence Level 1* You may be pooling ignorance. A level 1 employee is not yet prepared to share and problem solve with more skilled peers or superiors. Putting a person with low ability, sparse knowledge, and little motivation in such a setting will confuse and frustrate him or her. Try to give more direction and spend more time with the person. Ask what is needed to do the job right, and respond with help.
- Independence Level 2* The employee may respond well to your style, but may be left without adequate direction to properly do his or her job. Ask the employee if you are giving enough direction. If you've been supportive and nonjudgmental so far, the person will tell you, and you can act accordingly.
- Independence Level 3* This employee will respond well to your style. He or she doesn't need a lot of direction, but enjoys the give-and-take of participating and sharing ideas. Keep it up. You might empower this employee. Let the employee take full responsibility for projects and come to you only when necessary. This way you'll keep in touch, but also take the first steps toward developing him or her.
- Independence Level 4* He or she may find your facilitative style likeable, but sometimes unnecessary. Doing the job independently is more important than participating with people who are not directly involved in the effort to get results. Talk to your employee. Some meetings are necessary, but let him or her take charge. Give greater supervisory responsibility for some of your tasks. This will give him or her a new goal, and free some of your time to develop lower-level people.

If your dominant style is *coaching*, and the employee you are trying to lead is at

- Independence Level 1* You may have discovered that your coaching style is not working. Praise and support are no substitute for clear direction. Withhold your praise until you see clear evidence of accomplishment. Until then, give more direction in terms of specific steps required to do the job, and provide lots of feedback to correct performance problems.
- Independence Level 2* You are right in tune here. Praise and support, but don't neglect clear direction. The level 2 employee is good, confident, and able, but has not yet mastered the job, so feedback and direction are essential.
- Independence Level 3* Your coaching style may turn this employee off. He or she probably doesn't need quite as much direction as you like to give. Be less like a teacher with this person and more like an equal. Try to offer less advice and spend your time problem solving with the employee.
- Independence Level 4* This employee does not often need your praise and direction. You may even be coming across as an interference—benevolent perhaps, but unnecessary. Back off as much as possible. Praise only at the end of an assignment; don't get involved in the work process. Be willing to take some risk as far as this person is concerned.

Dominant Leadership Style—Directing

If your dominant style is *directing*, and the employee you are trying to lead is at

- Independence Level 1* You are doing the right thing. An employee with a low independence level needs a telling style in which you clearly explain the job. Check for understanding, and make sure that you give explicit directions.
- Independence Level 2* Ask your employee how he or she would like to arrange the next project. If the response is satisfactory, let him or her run with it. Allow your employee a little more freedom and see what happens. If your employee succeeds, back off and praise him or her.
- Independence Level 3* Avoid issuing orders. Hold a meeting with your employee and ask for ideas. This may surprise your employee, particularly if you've never done this before. Therefore, you will do more listening than speaking; try not to censor any ideas that come up. If something seems reasonable, back off and let your employee run with it.
- Independence Level 4* You're lucky this person still works for you; a telling style can really turn off a highly independent person. If this person is really that competent, get out of the way and let him or her work. If you need to tell him or her something, do so. Be specific and clear but then get out of the picture. If the employee is truly at level 4, he or she will deliver and save you time in the process.

Key Points

Leadership

Below are some of the key points in this module. Please add your own.

- In order to support quality, managers need to be effective leaders and role models for their people.
- Effective leaders take into consideration the needs and abilities of their employees as well as the specific situation and modify their style accordingly.
- Leaders not only manage their people; they provide opportunities for growth and development.
- Implementing TQM will require a range of leadership styles.
-
-
-

Module Seven

Promoting Total Involvement

Contents

Promoting Total Involvement

Overview: Promoting Total Involvement	2
Exercise: The New Truck	3
Discussion: Dynamics of Participation	5
Video: "Participation and Quality"	6
Presentation: Effective Decision Making	7
Exercise: Using Participative Management	8
Discussion: Group Decision Making	9
Key Points: Promoting Total Involvement	10

Overview

Promoting Total Involvement

As we saw in the previous module, managers often lead effectively by involving their people. In this module we help managers find answers to three questions about participative management: Why do I use it? When do I use it? How do I use it? We use a participative management scale to determine the level of employee involvement most appropriate for a given situation. We then take a special look at the benefits to be gained by involving groups in the design of systems that affect them.

Objectives

By the end of this module, you will be able to

- Use participative management techniques to involve your employees effectively
- Apply the participative management scale as a guide for using participative techniques
- Identify situations that you might manage more effectively by involving groups as well as individual employees

Exercise

The New Truck*

In this exercise, you will experience the process of participative decision making and relate it to your work experience.

Directions

Step 1. At the direction of your facilitator, break into small groups.

Step 2. Read the material that follows.

Assume that you are repairmen for a large utility company. Each day you drive to various locations in the city to do repair work. Each of you drives a small truck and takes pride in its appearance. You are possessive about your trucks and like to keep them in good running order. Naturally you'd like to have new trucks, too, because a new truck would also give you a feeling of pride.

Here are some facts about the trucks and the men in the crew. You report to Walt Marshall, the supervisor of repairs.

George Seventeen years with the company, has a two-year-old Ford truck

Bill Eleven years with the company, has a five-year-old Dodge truck

John Ten years with the company, has a four-year-old Ford truck

Charlie Five years with the company, has a three-year-old Ford truck

Hank Three years with the company, has a five-year-old Chevrolet truck

Most of you drive only in the city, but John and Charlie cover suburban jobs.

*Norman R.F. Maier and Gertrude Casselman Verser, *Psychology in Industrial Organizations*, 5th ed. (Houghton Mifflin, 1982), pp. 189-191. Reprinted by permission.

Step 3. At the direction of your facilitator, take the role of one of the repairmen listed above. Your facilitator will give you directions for your role, which you should read. Accept the facts and assume the attitude supplied for your specific role. From this point on, let your feelings develop in accordance with the events that transpire in the role-playing process. When facts or events arise that are not covered by the roles, make up things that are consistent with how you imagine them to be in real life.

Discussion

Dynamics of Participation

In the previous exercise you experienced participative decision making. Now you will have an opportunity to discuss the dynamics of employee involvement in decision making.

Discussion Questions

1. How would you describe the quality of the solutions achieved in "The New Truck" exercise?

2. Were all the participants satisfied with the solutions?

3. Can you think of situations when it is impossible to treat all individuals alike?

4. Are the situations you thought of in question 3 situations in which employee participation is important?

Video

“Participation and Quality”

In this video, we will describe the process of participative management and present some examples of how it works. The video will stress the importance of selectively using participative techniques. As you will see, participative techniques are essential to improving quality and productivity.

Discussion Questions

1. If participative techniques are so powerful, why don't all managers use them?
2. Under what circumstances might you not want to use participative management?

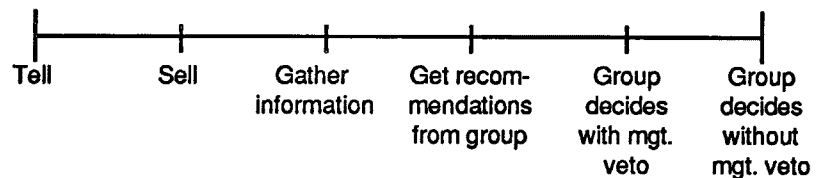
A good decision is one that thoroughly and efficiently produces the desired goals.

Participation in decision making involves two important dimensions. The first is the quality of the decision. Making high-quality decisions requires weighing the objective facts, and then deciding. This has traditionally been done by people with the necessary technical expertise to ensure the quality of the decision.

The second dimension of decision making is acceptance. The degree to which employees accept a decision directly affects their willingness, enthusiasm, and commitment, and their ability to carry it out. Studies and experience show that people are more likely to accept and understand a decision in which they took part. In decision making, keep the following three guidelines in mind:

1. *Define* the problem. When a problem is clearly defined, the solutions often appear by themselves.
2. *Clarify* the relative importance of both quality and acceptance.
3. *Determine* to what extent you will involve employees in the decision-making process. The scale below will help you decide on the level of employee participation you will want, based on the relative importance of quality and acceptance in the success of the decision.

Participative Management Scale



Exercise

Using Participative Management

In this exercise, you will generate a list of situations and determine when participative management should be used.

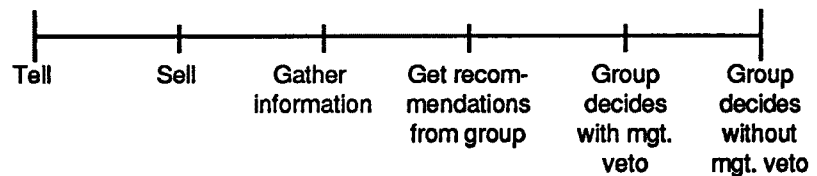
Directions

Step 1. Divide into small groups.

Step 2. Brainstorm types of situations about which a decision must be made, and in which you might want to involve a group of employees. Choose one situation from this list on which your small group will work.

Step 3. Determine the relative importance of quality and acceptance in making this decision.

Step 4. Select a management style that will match the relative importance of quality and acceptance for the success of this decision. Identify the style on the scale below.



Step 5. Identify the costs and benefits of your choice.

Step 6. Prepare to explain your decision-making process to the larger group.

Discussion

Group Decision Making

In this module, you have had a chance to experience participative decision making, to discuss when it is important, and to practice using the participative management scale to determine the extent to which employees ought to be involved in particular decisions. In this activity, you will have an opportunity to use all of the above to focus on how to enhance the benefits of group decision making and to determine when unilateral decisions should be made.

Discussion Questions

1. What are the benefits of using a group?
2. How might a skilled team leader enhance the quality of a team's decision?
3. When should a leader make a unilateral decision?

Key Points

Promoting Total Involvement

Below are some of the key points in this module. Please add your own.

- Participative techniques contribute to both the quality of decisions and employee acceptance.
- The participative management scale can help you select appropriate ways to involve employees in work related situations.
- Groups are powerful forces whose synergy can be used to further quality improvement.
- Effectively managing teams can enhance the quality of team decision making.
- There are times when participative decision making is not appropriate.
-
-
-

Module Eight

Implementing Total Quality Management (TQM)

Contents

Implementing Total Quality Management (TQM)

Overview: Implementing Total Quality Management (TQM)	2
Presentation: TQM—Keys to Successful Implementation	3
Discussion: Granting Amnesty	7
Presentation: The Common Roadmap—Evolution Is Predictable	8
Presentation: Leadership and Commitment	10
Exercise: Evaluating Your Leadership and Commitment	11
Presentation: Strategies for Implementing TQM	12
Exercise: Implementing TQM—Strategies	13
Presentation: Implementation Checklist	17
Exercise: Contracting for Change	21
Key Points: Implementing Total Quality Management (TQM)	24

You have now completed the seven modules of *The EPA Executive Course on Quality* which cover essential quality concepts and techniques along with corresponding quality management skills. In this module we look at the "big picture"—the steps that must be taken to implement total quality throughout EPA and ensure that it becomes a way of life for managers and employees alike. The implementation of TQM is not an overnight process. It begins with a common language of quality, including problem-solving tools and techniques. It continues as each employee works individually and in functional and cross-functional teams to identify and continuously improve the agency's key work processes. Total quality management is a never-ending journey that is fueled by an ongoing commitment to continuous improvement and an openness to changing the way we work. This includes the actions that senior managers must take as leaders and champions of quality improvement.

Objectives

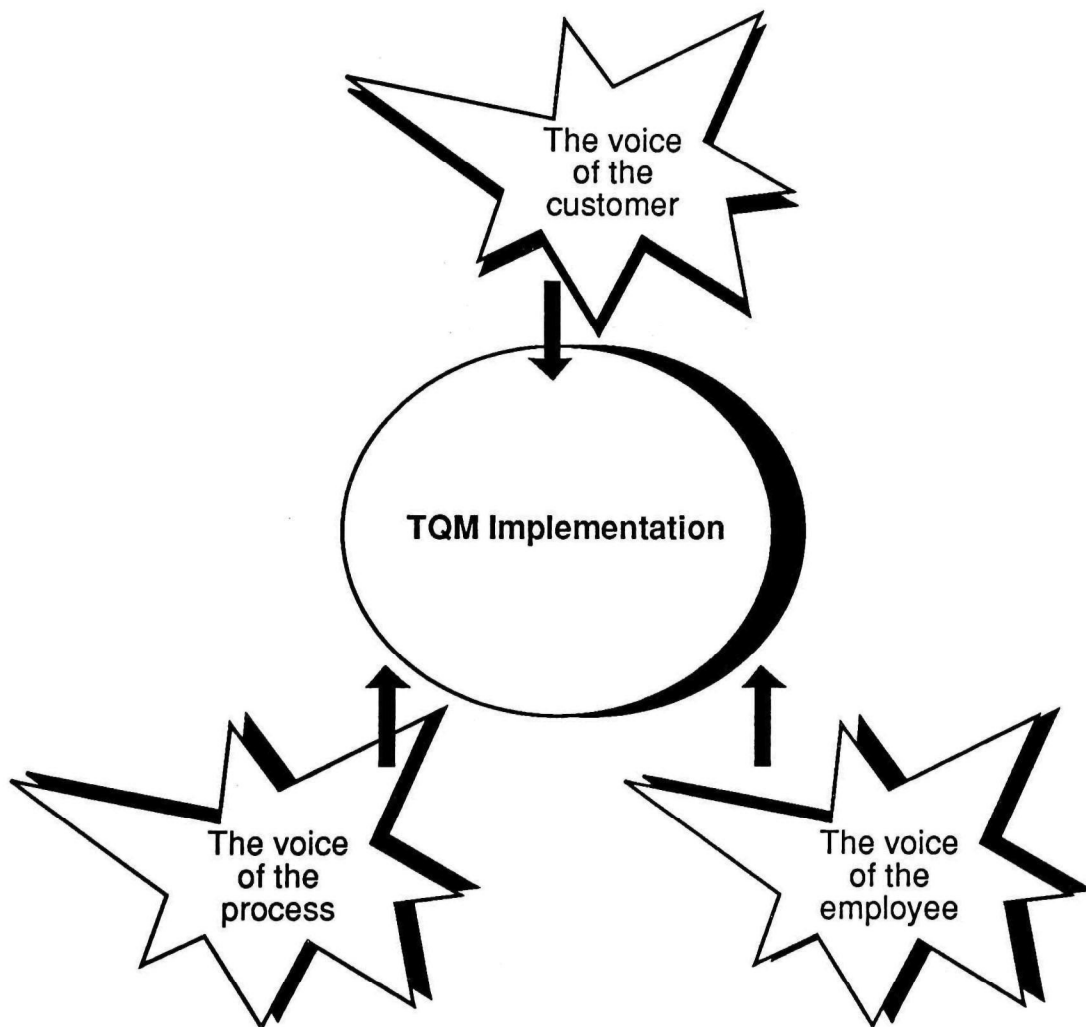
By the end of this module, you will be able to

- Understand the importance of using the voices of your customers, employees, and processes in planning
- Help the agency to "walk the talk" of amnesty
- Identify the evolutionary phases of quality improvement and target possible road blocks
- Examine the profile of a quality leader and decide what you can do to model that profile
- Use eight implementation strategies to help you focus your areas of action throughout the organization
- Develop some action steps that specify your own personal commitment to implementing quality

Successful implementation requires thinking not only about where your organization is but also where you want it to go.

It requires listening to the voice of customers, the voice of employees, and the voice of key processes. Taking these voices into account when planning grounds us in quality in the ways we have been discussing throughout the previous modules.

TQM Implementation



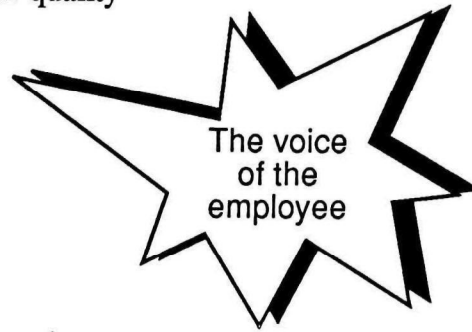
The Voice of the Customer

- Customer requirements
- Product
- Service
- Reputation
- Processes
- People
- Policies
- Responsiveness
- Communication
- Competitors
- Product/service gaps
- Anticipation of needs



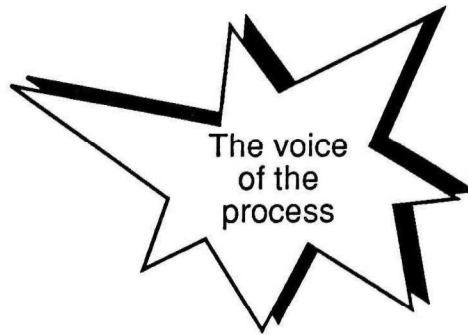
The Voice of the Employee

- Awareness and validation of quality strategy
- Amnesty
- Competing priorities
- Obstacles to successful implementation
- Impact of quality on daily work
- Buy-in of the quality effort
- "Sacred cows" and myths
- Communication and interaction
- Knowledge of problem-solving and process-improvement skills
- "Get ahead" norms
- Degree of involvement in decision making
- Perceptions of effectiveness of management styles
- Suggestions for proceeding



The Voice of the Process

- Output
- Productivity
- Cycle time
- Error rate
- Rejects
- Accuracy
- Returns
- Scrap
- Information
- Efficiency
- Effectiveness
- Communication
- Cost



Discussion

Granting Amnesty

Inherent in listening to the voice of employees is the concept of *amnesty*. For TQM to be successful, it is critical that employees and managers alike speak the truth and take risks in the interest of the greater good of the agency.

Therefore, for senior managers to be credible, they must grant *amnesty* to those from whom they hear potentially uncomfortable news. In the same vein, employees must be willing to take the initiative to raise issues that they believe are important to EPA's mission.

In this discussion, you will explore what it means to "walk the talk" of *amnesty*.

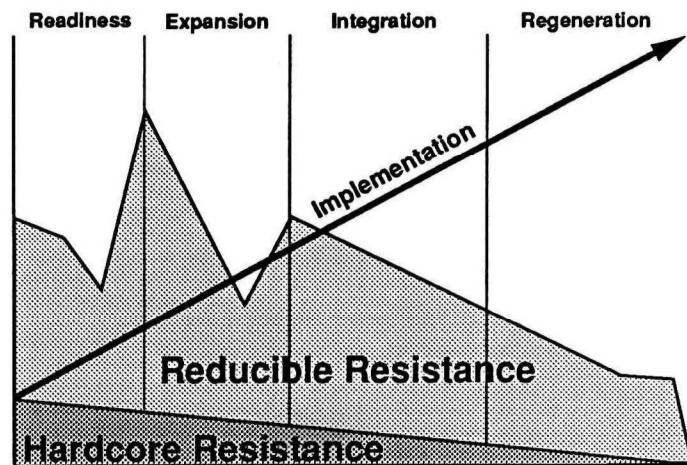
Discussion Questions

1. If you were raising a difficult, potentially threatening issue with a colleague or with someone to whom you report, what would be some of your concerns or fears?
2. What would the other person need to say and do to make you feel comfortable about raising concerns?
3. What concerns do you believe the employees who report to you will have about being open, honest, and direct with you?
4. What do you need to say and do that will lead employees to believe you "walk the talk" when it comes to *amnesty*?

The Common Roadmap—Evolution Is Predictable

The implementation of TQM will proceed through four identifiable phases—readiness, expansion, integration, and regeneration.

Evolution Is Predictable



At any given time:

- Different parts of the organization will have evolved at different rates.
- Within any part of the organization different stages will be present.
- Evolution through the phases will demand attention and a continuous application of energy.

The phases of TQM are important for planning organization-wide TQM deployment and serving an individual manager as a guide for leading TQM in his or her department or small unit. Total quality improvement requires asking people to change not only how they do their work, but also how they actually view their work. It requires a fundamental shift in norms, attitudes, and organizational culture. It is natural for people to resist change, especially when it is complex. Therefore, as your total quality implementation proceeds through the identifiable phases, the strength and nature of the resistance is predictable, and to some extent preventable. Being aware of this evolutionary process can help you anticipate the predictable stages and road blocks you will likely encounter, as well as facilitate the eventual acceptance of quality as the way of doing work.

Four Phases of TQM Implementation

Phase 1—Readiness. The readiness phase is marked by variation in understanding of TQM, its relevance to individual and/or organizational work, its priority among other mission requirements and/or improvement initiatives, its suitability within particular environments, its compatibility with certain management styles, and its staying power as a lasting force in the organization. Some parts of the organization will be in high readiness for TQM and will absorb it quickly; other parts will be in low readiness and will require more preparation for TQM to become part of daily work.

Phase 2—Expansion. While some parts of the organization are bogged down, others will be moving ahead. Gradually a critical mass of successes will be achieved, and a "flywheel" effect will create a broader and deeper deployment of TQM. Converts from among those "bogged down" portions of the organization will be made as they observe long-standing problems beginning to disappear, as standards of operational effectiveness begin inching upwards, as doing the right thing right happens the first time more and more often. These converts will take up the TQM process in their work areas as success breeds success.

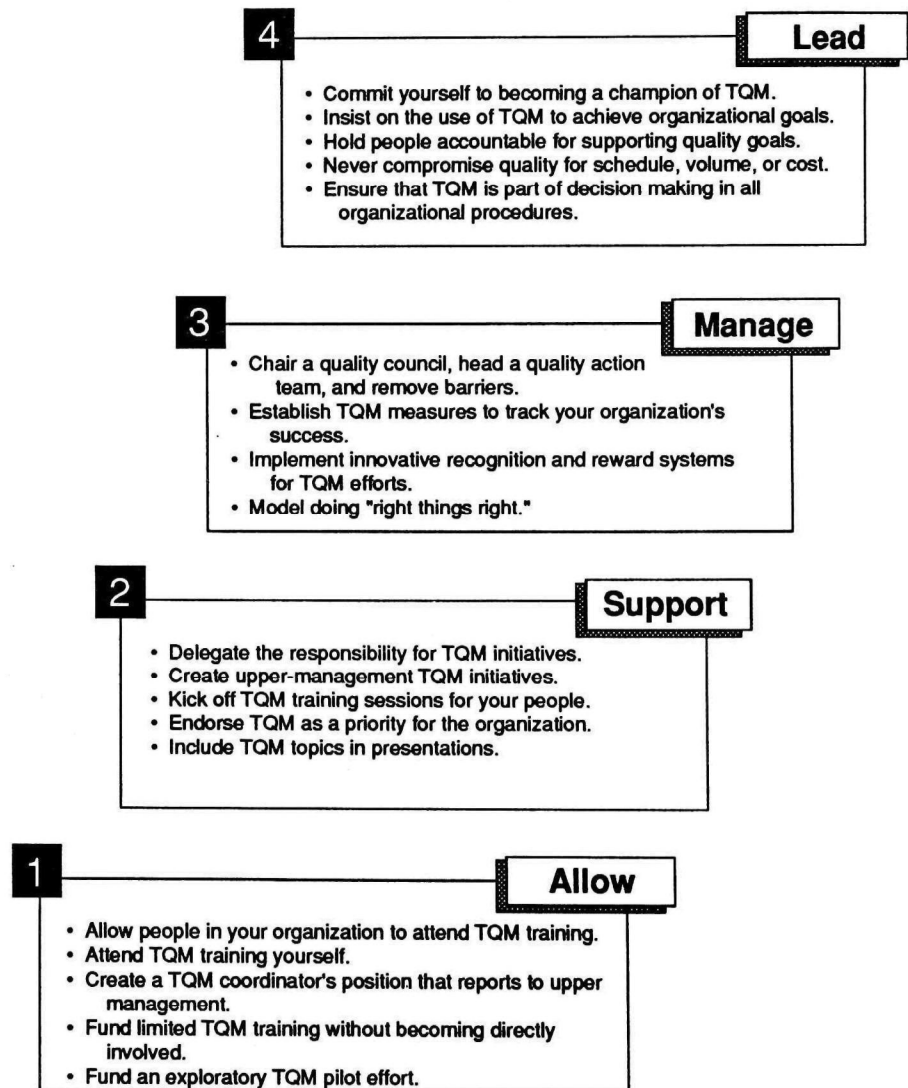
Phase 3—Integration. During this phase, TQM techniques and ways of thinking about work (continuous improvement, total involvement, measurement, etc.) will have become incorporated into daily routines. Supportive systems (personnel systems like performance appraisal, promotions, communications, planning, and budgeting) will, during this phase, become linked in support of TQM to reinforce it as a way of life within an organization. Moreover, vendors to an organization will have adopted TQM methodologies, and will be delivering services on time and within cost and performance parameters. Customers will have joined in partnership to further tighten the mutual understanding of customer requirements and supplier capabilities.

Phase 4—Regeneration. In this phase, the organization appears to have become "reborn" as the cultural transformation promised by TQM becomes a reality. The entire organization is rededicated to customer satisfaction, employee satisfaction, cost containment, and productivity. The bottom of the organization is linked to the top in its pursuit of strategic initiatives aimed at continuously improving mission effectiveness. Horizontally, those elements which are joined in a common work process are tightly integrated, as measures of "handoff" effectiveness reveal a steady drop in errors.

We have considered the importance of using the voices of the customer, the employees, and the processes to plan how to get from where you are to where you want to be. We have also identified the common evolutionary process of resistance and eventual internalization of the total quality effort.

However, the quality implementation will move from readiness through expansion, integration, and regeneration only if senior managers demonstrate active commitment and leadership. There are important differences between allowing, supporting, managing, and leading your quality effort.

Senior Management's Role in TQM



Exercise

Evaluating Your Leadership and Commitment

People both within and outside your organization will be alert to the degree to which you are committed to the total quality effort. They will very readily be noticing who does and does not "walk the talk." In this exercise you will consider your role and level of commitment in leading the quality implementation.

Directions

Step 1. In small groups, discuss what you will need to do in order to actively lead your organization's quality effort. Record your conclusions.

Step 2. In the same groups, discuss what you can imagine getting in the way of your leading the quality effort. What are the barriers to successful leadership? Record your conclusions.

Step 3. Select a representative to report your findings in the large group.

Being aware of key elements of quality implementation, understanding and anticipating the evolutionary phases of effecting change, and taking seriously your level of commitment in leading the change process are all critical.

To drive the evolution of TQM forward throughout an organization, a further portfolio of interrelated strategies is required.

- These strategies define the framework for TQM deployment and serve as a test of the comprehensiveness of TQM implementation action plans.
- These strategies are intended to provide field executives with sufficient guidance and direction so as to promulgate detailed plans for their own implementation of TQM.
- These strategies are highly integrated. They are self reinforcing and interdependent. Taken altogether, they comprise the basis for detailed TQM implementation planning.

Internal Implementation Strategies

1. Leadership and commitment
2. Infrastructure
3. Focus and rollout
4. Measurement
5. Education
6. Resources
7. Information and communication
8. Systems alignment

Exercise

Implementing TQM—Strategies

In this module, we have discussed the critical determinants of successful implementation, identified the predictable evolution of a total quality effort, and identified strategies for focused action in implementing TQM. In this exercise, you will have an opportunity to think more specifically of your role in focusing the actions of people in your part of the organization as you implement TQM.

Directions

- Step 1.** Your facilitator will divide you into small groups and assign each group two implementation strategies from the list of eight identified in the previous presentation. In your group, use the reference pages which follow to discuss answers to the questions associated with the two strategies you have been assigned.
- Step 2.** Pick a representative to report your conclusions to the large group.

Leadership and Commitment Questions

- How will implementing TQM complement your strategic objectives?
- How will you demonstrate commitment to TQM?
- How will you hold others accountable for TQM?
- What will you personally do to guarantee the successful implementation of TQM?

Infrastructure Questions

- How will the TQM implementation be organized?
- How will TQM be managed?
- Who will be accountable for its implementation?
- How will TQM affect headquarters and field operations?

Focus and Rollout Questions

- How will TQM be implemented in the short term and long term?
- What opportunities will be worked on first, second, third, etc.?
- In what locations will TQM begin?
- When will external customers and suppliers be involved?

Measurement Questions

- What is currently being measured?
- What processes and results should be measured to meet both internal and external customer needs?

-
- Who will be responsible for TQM measurement?
 - How will TQM measures be used?
 - How will TQM measures be integrated with other measures?

Education Questions

- What training is presently being successfully offered?
- What quality training needs now exist?
- How will needs be filled?
- Who will facilitate training sessions and how many facilitators are needed?
- How will training sessions be organized?
- How will educational success be measured?

Resources Questions

- What resources will be needed?
- Where will the resources come from?
- Will TQM be a resource priority?
- How will return on investment (ROI) be measured?

Information and Communication Questions

- What information is required for TQM decision making?
- How will this information be accessed?
- How and to whom will the TQM process be communicated?
- Who will be responsible for this function?

Systems Alignment Questions

- How will TQM be aligned with strategic and financial systems?
- How will TQM be aligned with human resources management systems?
- How will TQM be integrated with current improvement efforts?
- What other systems need to be brought into alignment?

Implementing total quality is highly complex and, as we have seen, involves an unfolding evolutionary process. Identifying the degree of effort you will put into the various implementation strategies in the short term versus the long term can serve as a reminder of the evolving nature of this sophisticated change effort. Throughout the change process, the following checklist can serve as a useful device for reflecting on your current status of implementation as well as on further implementation in the short and long terms.

	Present Status	Short Term	Long Term
Leadership and Commitment <ul style="list-style-type: none">• Vision• Implementation plans• Management accountability• Personal involvement			
Infrastructure <ul style="list-style-type: none">• TQM management structure• Lines of accountability• All operations/locations• Reporting methodology			
Focus and Rollout <ul style="list-style-type: none">• Short-term rollout<ul style="list-style-type: none">–Locations–People–Processes• Long-term rollout• Involvement of customers• Involvement of suppliers			
Measurement <ul style="list-style-type: none">• Current measures• Customer measures• Process measures• Results measures• Tracking and reporting• Integration			

- - High effort
◐ - Medium effort
○ - Low effort

	Present Status	Short Term	Long Term
Education <ul style="list-style-type: none"> • Current training • Needs analysis • Facilitators identified and trained • Rollout guidelines • Measurement 			
Resources <ul style="list-style-type: none"> • Needs identified and fulfilled <ul style="list-style-type: none"> –Financial –People –Facilities and equipment • ROI measures 			
Information and Communication <ul style="list-style-type: none"> • Needs and sources identified • Communication plan • Evaluation and reporting 			
Systems Alignment <ul style="list-style-type: none"> • Strategic • Financial • Human resources • Other improvement efforts 			

- | |
|-----------------------------------------------------------------------|
| <p>● - High effort</p> <p>◐ - Medium effort</p> <p>○ - Low effort</p> |
|-----------------------------------------------------------------------|

	Present Status	Short Term	Long Term
Public Responsibility			
• Environment			
• Ethics			
• Local citizenship			
• Policy/legislation			
Customer Alignment			
• Customers identified			
• Valid requirements			
• Satisfaction measures			
• Improvement plans			
• Partnerships			
• Future needs			
Supplier Alignment			
• Suppliers identified			
• Valid requirements			
• Satisfaction measures			
• Certification			
• Partnerships			
• Future needs			

- | |
|-----------------------------------------------------------------------|
| <p>● - High effort</p> <p>◐ - Medium effort</p> <p>○ - Low effort</p> |
|-----------------------------------------------------------------------|

Exercise

Contracting for Change

In this final exercise, you will develop some action plans for leading the quality effort in your work group or in your part of the organization.

You may want to refer back to the leadership and commitment activities, and the internal implementation strategies and checklist in this module.

Directions

- Step 1.** Pair off with one person in the group with whom you can provide mutual support, reflection, and improvement on your quality efforts. In your pair, brainstorm a list of concrete actions you, as senior executives, can take to visibly lead the quality effort.
- Step 2.** Each of you now pick at least one item from the list which you believe should have a high priority and important yield for you and your organization.
- Step 3.** Using the force-field analysis worksheet on the next page, identify the present state and desired state for the item you picked in step 2. Then list the driving and restraining forces. Work jointly, first with one of your pair's priorities and then with the other's.
- Step 4.** Discuss with your partner what you can do to strengthen or build on the driving forces and reduce or eliminate the restraining forces.
- Step 5.** Drawing from the force-field analysis, fill in the action plan worksheet.
- Step 6.** If time permits, follow steps 2 through 5 with other items on your brainstorm list.
- Step 7.** In the large group, share your plans. As others report their plans, add to your own plan any further activities that would be helpful to you and your organization.
- Step 8.** Plan to meet with your partner in the future to discuss your progress.

Desired Outcome

Restraining Forces

A diagram illustrating a magnetic field. A central vertical line is flanked by two columns of horizontal arrows. On the left side, five arrows point to the right. On the right side, five arrows point to the left. This configuration typically represents the magnetic field lines around a current-carrying wire, where the direction of the field is determined by the direction of the current.

Name: _____**Date:** _____**Work Unit:** _____

Leadership Actions (what)	Steps (how)	Account- ability (who)	Dead- lines (when)	Monitoring Mechanisms (how it is going)	Resources Needed
1.					
2.					
3.					
4.					
5.					
6.					

Below are some of the key points in this module. Please add your own.

- Successful implementation requires listening to the voice of your customers, the voice of your employees, and the voice of your processes.
- *Amnesty* will only work if managers "walk the talk" and if employees are willing to express their suggestions and concerns in the interest of the greater good of the agency.
- Implementation of TQM will likely evolve through four phases: readiness, expansion, integration, and regeneration.
- Being aware of the four evolutionary phases can help you anticipate and acknowledge road blocks and facilitate eventual acceptance of your quality effort.
- For TQM to be successful, senior management must continuously "walk the talk" and demonstrate active leadership and commitment.
- TQM implementation planning rests in eight detailed, interdependent strategies which are highly integrated: leadership and commitment, infrastructure, focus and rollout, measurement, education, resources, information and communication, and systems alignment.
- The above eight strategies should unfold over time, some being activated in the short term and others in the long term.

•

•

•

Reference Readings

Contents

Reference Readings

Reading: The Meaning of Quality	2
Reading: Identifying the Cost of Quality	13
Reading: You and Your Customer	21
Reading: Continuous Improvement—Doing Right Things	30
Reading: Quality Action Teams	41
Reading: The QAT Problem-Solving Process	54
Reading: Leadership	62
Reading: Participation and Quality	72

The Meaning of Quality

The Meaning of Quality

“Consumers are willing to pay more for higher quality products.”

A revolution in quality improvement is underway in organizations throughout the world. If supported and carefully nurtured, this revolution will transform the way we work.

The ideas behind this revolution are simple once we look at them. However, making these simple ideas work amid the complexities of organizational life can be both difficult and challenging.

The EPA Executive Course on Quality will help you transform quality ideas into action by presenting them in a language that everyone in your organization can understand. Learning a common language of quality will help you and the people who work for you communicate more effectively, work as a team, and solve problems so that they don't recur. Finally, if reinforced by management, this new attitude about quality will create an environment in which people want to come to work and are able to do their best work.

The Quality Revolution

The quality revolution is rooted deep in American soil, but it was the Japanese who first put quality ideas into widespread practice.

After World War II, "Made in Japan" was synonymous with junk. Then, in the early fifties, the Japanese were introduced to quality improvement techniques. Since that time, the Japanese have become world-class competitors, largely through the systematic application of the quality concepts and techniques pioneered by the American consultants W. Edwards Deming, a statistician, and Joseph Juran, an engineer, along with Japanese colleagues, such as Kaoru Ishikawa.

The revolution in quality in the United States has been fueled not only by foreign competition but also by rising customer expectations. With a broader array of products and services to choose from, consumers are demanding higher quality in their purchases than ever before. A Gallup poll conducted for *Quality Progress* magazine, for example, found that consumers are willing to pay more for higher quality products. That means they are less concerned with cost than value. There is every reason to believe that consumers' expectations about quality will continue to rise in the years ahead, forcing organizations to improve quality—or lose business to competitors who do.

***"Inspection-based
systems never catch
all the errors."***

As Donald Ephlin, vice president of the United Automobile, Aerospace, and Agricultural Implement Workers of America, has said, "Quality is job security today. . . . There's no sense in being competitive in cost if you're not competitive in quality. I think quality has always been important, but it's much more important today because our competition is good and they concentrate on quality."

Big-Q

In the United States, the concept of quality has evolved from traditional quality control, called little-q quality, through the intermediate stage of quality assurance, to the more comprehensive concept of total quality improvement, known as TQI or Big-Q quality.

Traditionally, organizations have sought to achieve quality standards through inspection and testing. This practice has placed the responsibility for quality on quality control or quality assurance specialists. In service industries, inspectors and supervisors perform many of the same functions, but they lack the formal status of quality control specialists. Either way, quality guardians have generally lacked the organizational status or political clout to revise project schedules, let alone change the way work is performed. Moreover, inspection-based systems never catch all the errors.

In contrast, companies that embrace Big-Q quality make every employee responsible for quality by teaching what quality means, why it matters, and how to achieve it. These companies dramatically reduce the number of errors or defects reaching customers. When an organization begins supporting quality in Big-Q terms, it makes a real breakthrough.

Over the past several years, we have spent hundreds of hours listening to quality control professionals, line managers, and hourly workers. They complain that they already know how to correct—or even prevent—defects, but that they are not encouraged to do so. They feel frustrated by the diminished view of quality reflected in statements like "It's good enough" or "We'll correct it in the field if there's a problem."

By the time a problem is discovered in the field, corrective action is more expensive, and the company's reputation has been tarnished. Moreover, giving responsibility for quality to one department or group of people may send a message to the other people in the organization that they don't need to worry about quality. In contrast, relying on the people who produce the

product or deliver the service to ensure that it is done right sends a very different message to the organization—a message that quality is everyone's responsibility.

Big-Q quality differs from little-q in other respects, too (see next page). For example, it

- Is customer oriented instead of product oriented
- Stresses prevention
- Is part of everyone's day-to-day work
- Focuses on the long term

Big-Q quality requires a revolution in organizational culture that replaces finger pointing with continuous improvement, rewards initiative, and encourages problem solving by employees and teams at all levels.

Approaches to Quality

Quality Element	Little-q Organization	Big-Q Organization
The definition of quality is	product oriented	customer oriented
Quality priorities are	less important than cost, schedule, and volume	first among equals: "the driver" of business decisions
Business decisions are based on	short-term goals	balancing short-term and long-term goals
Emphasis is on	detection of errors	prevention of errors
Costs are	raised (when quality is emphasized)	lowered (when quality is emphasized)
Errors are understood to result from	special causes (workers making individual mistakes)	common causes (ineffective systems and management practices)
Responsibility for quality belongs to	quality control/ quality assurance, inspectors, and specialists	everyone
Organizational culture tends toward	finger pointing, blame finding, and punishing risk takers	continuous improvement, innovation, and permission to fail
Organizational structure is	hierarchical, bureaucratic, and static	flat, integrated, and fluid
Problem solving is by	those in authority, top of pyramid	teams, all employee levels

Defining Quality

Traditionally, quality has referred to the performance of a product or service. But the quality of your final output is only one aspect of a total quality organization. As you read this, the people who work for you are hard at work (you hope). Each of those people is part of a complicated chain of transactions that stretches from the raw material vendor supplying your organization to the ultimate customer receiving the completed product or service.

Most people are somewhere in the middle of that chain, receiving intermediate products (information, materials, goods, etc.) from people and processing them to produce intermediate items for other people in the chain.

Big-Q means that quality is not just for the end user. On the contrary, every activity in the customer-supplier chain has a quality dimension. For Big-Q to be realized, each of those interactions needs to be performed well.

Big-Q also means that, in addition to product quality (the characteristics of the end product or service), quality has other dimensions, including the relationship with the customer, the integrity with which we support our products and services, the timeliness of delivery, and the cost to the customer of acquiring the product or service.

There are many definitions of Big-Q quality. One of the simplest is *doing right things right*. The two elements of this definition are

1. *Alignment*, which is doing right things. Right things are the results that meet customer requirements.
2. *Execution*, which is doing things right. Doing things right refers to the way you do work.

Quality Pays

The realization that quality pays and, furthermore, that it represents a potential competitive advantage in the marketplace is a breakthrough for many agencies and companies.

Contrary to popular perception, higher quality need not cost more. The attitude that there must be a trade-off between cost and quality is based on the assumption that quality happens after the fact (i.e., that it has to be *inspected* in). Companies that use quality improvement techniques, however, build quality in from

the start. Through better processes that result in less waste and rework, companies actually save money in the long run (and often in the short run, too).

In terms of profitability, businesses in the United States that have improved quality are showing the same spectacular results as businesses in Japan—not only in products, where the Japanese have done so well, but also in services. For example:

“Because it leads to business growth and expansion, quality improvement can protect jobs while creating new ones.”

- AT&T has reported that its investments in quality yield a 20 percent return and an 18 percent net cost savings.
- In 1984, quality improvement efforts at General Electric led to a 34 percent reduction in quality costs through less waste and fewer rejects.
- At a leading utility company, where 1,400 teams and other quality efforts involve virtually every employee in the company, savings attributed to quality improvement are estimated at more than \$1 million a week.
- At Westinghouse’s Semiconductor Division, scrap has been reduced 58 percent (saving over \$2.4 million), material returned by customers has decreased 69 percent (saving over \$600,000), and service performance has improved 20 percent since quality improvement began in 1982.

Quality improvement has potential benefits in addition to cost savings; it can help expand market share, boost sales, and justify higher profit margins. Note that Japanese cars in the late eighties represented 30 percent of the U.S. market, although in many cases they were priced higher than comparable domestic models. Finally, because it leads to business growth and expansion, quality improvement can protect jobs while creating new ones.

We need to take a broader view of the role quality plays in achieving organizational and individual goals. We need to recognize that quality needn’t cost more, and that it will improve a company’s competitive position.

Furthermore, we need to see that quality involves more than just products or services and that it applies to internal as well as external customers. We must recognize that everything the organization does has a quality component, and that everyone shares responsibility for quality.

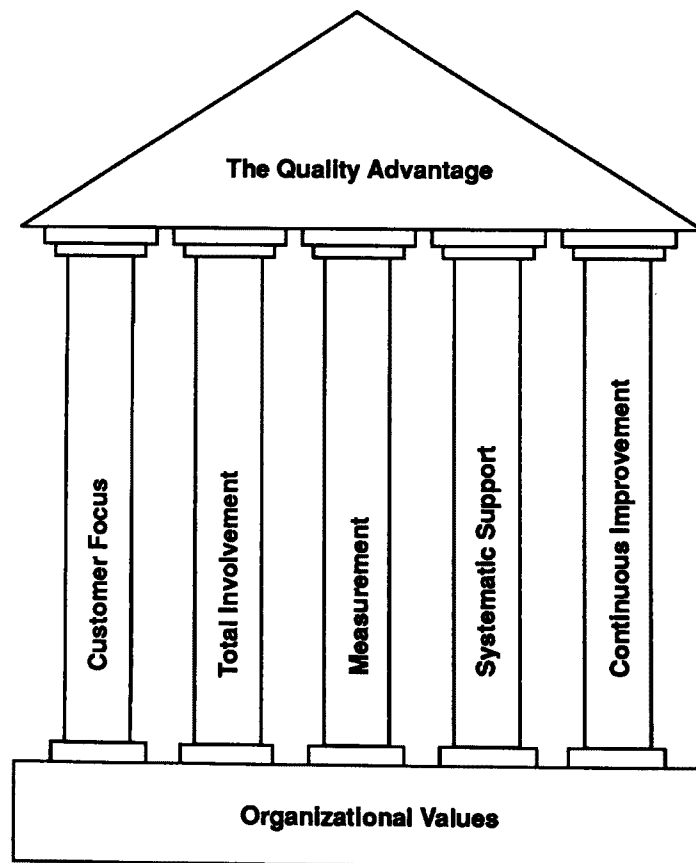
The Breakthrough in Action

Accepting a new definition for quality and making quality a priority are essential, but they are not enough. For quality to become the way we do business in our organizations requires a breakthrough in action. We have to break out of established ways of thinking and acting. We have to learn new behaviors, and we need both skills and the mandate to practice them.

Douglas D. Danforth, former chairman of Westinghouse, has said, "Everyone needs to say by his or her actions that quality is a way of life . . . that we apply the same high standards of performance to our jobs that we do to our personal lives."

In ODI's experience, accomplishing this breakthrough requires dedication to five basic principles, along with knowledge of the specific practices needed to implement each one. These five pillars of quality are customer focus, total involvement, measurement, systematic support, and continuous improvement. To support quality, these pillars must be built on a foundation of organizational values that employees can believe in and live by. On the following pages we'll examine each of the pillars in turn.

The Pillars of Quality



Customer Focus

Quality means customer satisfaction, which can be measured by a product's conformance to a customer's requirements. Quality is not necessarily the same for every customer, but each customer expects to have his or her requirements met. A satisfied Chevrolet owner may have requirements different from those of a satisfied Cadillac owner—or a satisfied van owner. Yet all three vehicles may be of equal quality, if they meet the needs of their respective owners.

“The unrecognized quality experts in any organization are the people who do the work.”

Within your organization, people supply products, services, and information to one another. In these exchanges, you are linked as internal customers and suppliers. You can better meet the needs of your final, external customers when you work to meet the requirements of your internal customers. Everyone in your organization must understand the requirements of all of his or her customers and continue to meet these requirements even while working to improve his or her own processes.

Total Involvement

Beginning with senior management, every level of the organization must be involved in organized quality improvement activities. Everyone in the organization is responsible for quality, top to bottom and side to side. Each employee has an important role to play.

The unrecognized quality experts in any organization are the people who do the work. Who knows more than the experienced sales representative about how to qualify prospects or reduce unnecessary sales calls? Who knows better than the conscientious production worker how to reduce product defects? Who knows more than the customer service representative about what customers do and don't like about your organization? Certainly, the sales manager has a great deal to contribute to the reduction of unproductive sales calls, and the engineer has ideas about how to reduce defects. But it would be a mistake to solve those quality problems without the advice and ideas of the unrecognized quality experts.

Measurement

It's important to track your own progress, because you can't improve what you don't measure. You can't meet quality goals unless you establish baselines and chart progress against them.

You should be influenced by customer requirements as you decide what to measure, and you should have those closest to the work do the measuring. You should make decisions using facts and data, rather than using intuition or shooting from the hip.

“If quality counts, it should be recognized and rewarded.”

Systematic Support

Too often, good ideas produce mediocre results because of a lack of systematic support. If quality is important to your strategic advantage, then it must be reinforced by structures, policies, and procedures that encourage its development and discourage competing priorities. It must be part of your strategic plan, your budget process, and—most important of all—your performance management system. If quality counts, it should be recognized and rewarded. If you’re not willing to promote and reward those who improve how the work is done (as distinct from those who rush in at the last minute to put out fires), you’ll never achieve quality.

Continuous Improvement

There’s always room for improvement—and there always will be. In a quality organization, “good enough” is never good enough. Every aspect of Big-Q must be used to ensure customer satisfaction, or you are not achieving quality. Keep looking for a better way, even if your customers are satisfied with how you serve them now. In a fast-changing world, it is only a matter of time before their needs change. When they do, you want to be ready to establish or maintain your competitive advantage.

Quality is really a never-ending journey, not a destination. We need to do things better today than yesterday and be constantly on the lookout for ways to correct problems, prevent problems, and make improvements. Even when the customer’s needs have been completely and precisely met, a better, more efficient approach is always possible. The quality journey is a continuous search for a better way.

Implementing Quality

Many people agree that quality pays. But although they endorse the principles of the five pillars of quality, they still complain that there is no way to put the ideas into action. Their reasons include the following:

- Top management isn’t really committed to quality.

“Quality improvement can be the ultimate integrator of your organization. . .”

-
- Employees won’t believe management is serious about it.
 - Employees won’t cooperate.
 - There’s too little money and expertise to undertake quality efforts.

These are all plausible reasons not to do anything. But there are powerful incentives—aside from the benefits of strategic advantage—for implementing quality ideas. One is that people really do support quality improvement efforts if senior management is serious about them. We have seen this in our work with organizations in all segments of industry, as well as government agencies and healthcare institutions. Two essential truths can help you establish and sustain a quality improvement effort.

1. *Most people want to be proud of the work they do and the organization they do it for.* If you give people a mandate, a mechanism, and the support (tools, training, and opportunity) to do a job well, they’ll do it. If you create an organization with values people can support, they will.
2. *People support what they help create.* A person who does a job five days a week, year in and year out, probably has ideas about how to do the job better. But in practice, he or she may rarely be encouraged to voice those ideas. Employees will take an active role in designing systems to improve quality if you make it clear that jobs won’t be jeopardized by improvements they suggest.

Quality improvement can be the ultimate integrator of your organization, the umbrella under which you can achieve some of your most critical objectives: improved product quality, lower costs, stronger customer loyalty, increased employee morale, lower turnover, reduced absenteeism, a larger share of the market, and even higher profits.

Quality can become a rallying cry for organizational improvement. It can turn a company around, transform its culture, and inspire the changes necessary to compete more effectively.

Identifying the Cost of Quality

Identifying the Cost of Quality

Traditionally, when faced with shrinking resources, organizations make across-the-board reductions or cut efforts such as training and planning that have a long-term payoff. Without training and careful planning, necessary costs are cut along with avoidable costs—the wheat discarded with the chaff. Quality improvement efforts suffer as a result. Managers can cut expenses without cutting capabilities by taking a cost-of-quality approach to cost assessment. This approach provides an attractive alternative to the usual cost-cutting methods.

You can think of the cost of quality as an iceberg; on the surface, there are the costs we often associate with quality, such as defective products, rework, and quality control department expenses. Below the surface is a less obvious but even larger block of costs that we may not attribute to quality. It includes the costs of unwanted employee turnover, poorly run meetings, overdue receivables, and excess inventory. Once you have identified both the obvious and the hidden costs of quality, you can ferret out avoidable costs and begin to reduce them.

A number of organizations working toward a quality advantage have succeeded in cutting costs without cutting capabilities.

- A Federal Express quality team initiated a program to cut waste that ultimately resulted in a \$187,000 annual cost savings and a one-time savings of \$500,000 in capital expenditures. The cost of the quality team's efforts was paid back in just two weeks.
- A premier consumer products company found that 55 percent of its billing department employees were engaged in correcting and inspecting invoices. This amounted to a total of \$35 million or a cost of \$25 to collect an average bill of \$90.
- At John Hancock Life Insurance Company, a senior vice president noted that the thirty quality teams in his area produced "hundreds of thousands of dollars in underwriting cost savings and productivity gains" in one year.
- At a leading publishing house, printing crews identified newsprint wastage as a major cost of quality. By careful data gathering and problem solving, they reduced wastage by 75 percent, thereby saving \$250,000 a year.

“Unlike most budget-cutting efforts . . . a cost-of-quality approach leads to doing better with less.”

Unlike most budget-cutting efforts, which lead to doing less with less, a cost-of-quality approach leads to doing better with less. The difference is that most budget cuts are conducted without the cooperation and support of the managers and workers who will be affected by the cuts and who know where the waste really is. In an effort to protect themselves and their departments, people try to rationalize why particular cuts shouldn't be made. In Big-Q organizations, managers and workers with the right techniques and attitudes can distinguish fat from bone and concentrate on trimming the fat. This kind of an activity can lead to increased morale and a greater commitment to the organization, instead of to the demoralization that comes with most budget cuts.

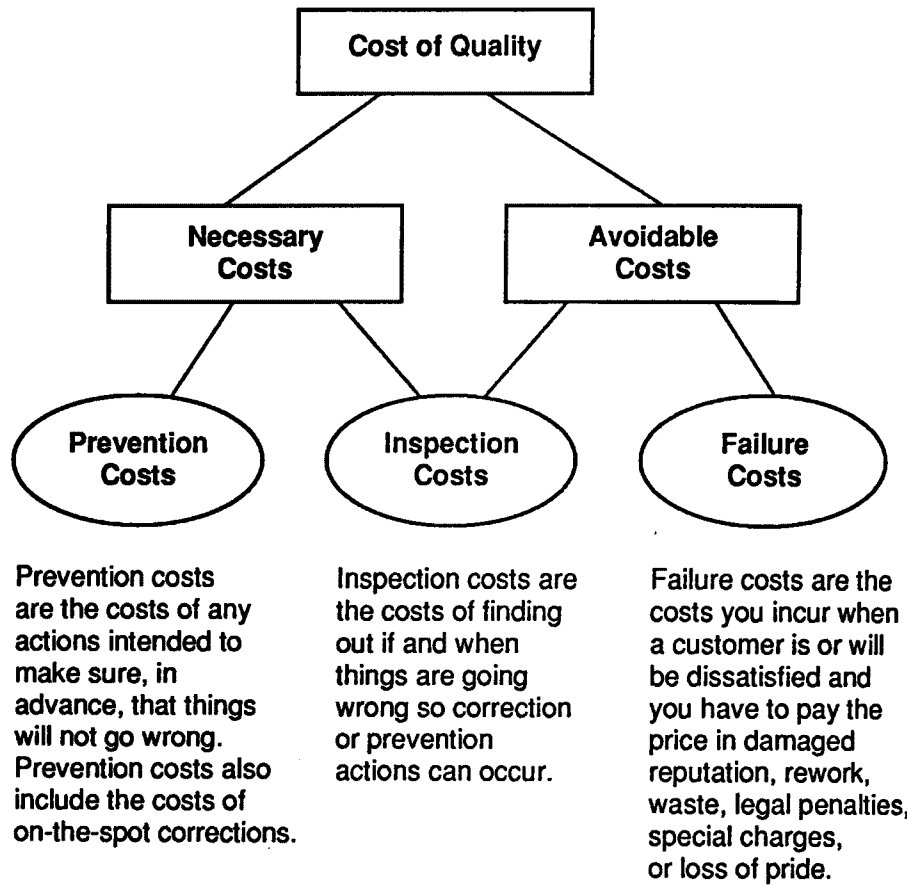
How Do You Define the Cost of Quality?

As discussed in the reading on the meaning of quality, the two key measures of an organization's success are *alignment* and *execution*. Alignment, what you do, is measured by how well you are meeting your customers' needs. Execution, how you do it, is measured by whether you achieve the highest return at the lowest cost. Alignment is doing the right things, and execution is doing things right. Ultimately, the key goal of the organization and each of its members is to do right things right.

The cost of quality includes all the costs of providing defect-free products and services. It includes the costs of prevention or inspection (appraisal) and failure (see next page). Experts in the field have found that these costs amount to 20 to 25 percent of operating costs in manufacturing organizations, and up to 30 percent (or more) in service organizations.

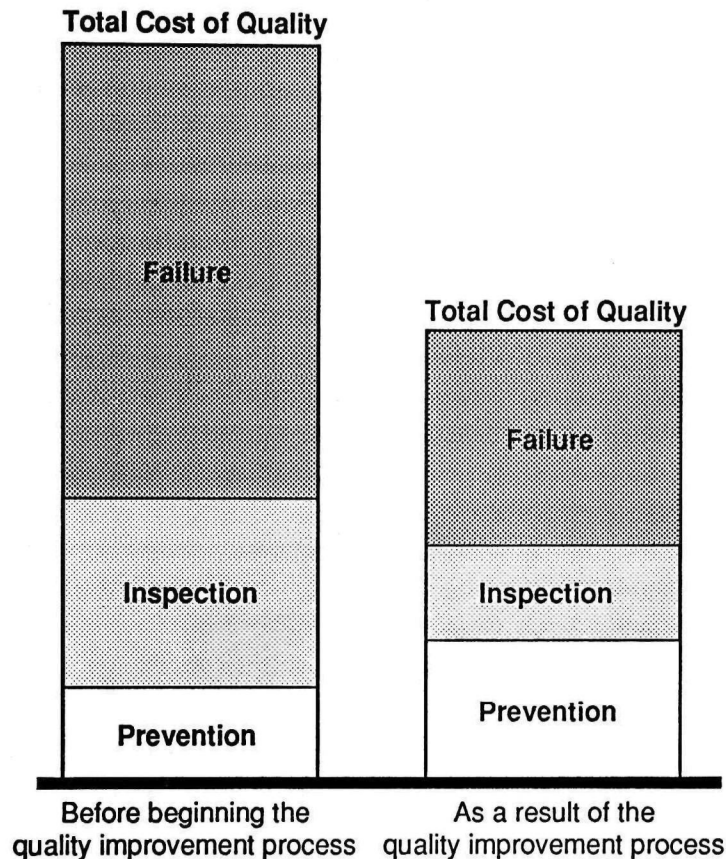
Although some costs of quality are necessary and useful, other costs of quality are avoidable and wasteful. Whenever you're failing to do right things right, you're incurring an avoidable cost of quality.

The Cost of Quality



As you pursue quality, you will find that your prevention costs increase, while your inspection and failure costs decrease by a much greater amount. Thus, your total cost of quality will go down.

How Quality Pays Off



The Employee's Role

The concept of doing right things right puts the responsibility for quality where it belongs—in the hands of each employee. Most employees have the ability to define what the right things are, but they can't do it alone. They must work with their customers and their manager to identify and understand customer and organizational needs.

Employees can also determine how to do things right. Again, employees do not operate in a vacuum. Quality is achieved only when the knowledge and skills of all employees are brought to bear on the work process in which they are involved.

The Manager's Role

In order to reduce the cost of quality, managers must communicate their priorities and expectations to their employees *and* facilitate the quality improvement process by involving employees and ensuring that they have the confidence and skills required to do the job. It is not the manager's job to provide solutions. Big-Q quality means that the best people to improve a work process are the people who do the work.

Prevention and Correction

The key to reducing costs is prevention. For example, if you set up and follow a maintenance schedule for your car that includes checking the oil regularly, you will ensure that automotive problems related to lack of oil will never occur.

The next best thing to prevention is early detection and treatment of problems. If you don't add oil regularly, you need to add it as soon as the oil light goes on. If you don't do either prevention or early treatment, you may wind up with a cracked engine block, a large expense that could have been avoided.

The same principle applies to problems in organizations. The *best* solution is prevention.

Despite prevention efforts, however, some quality problems may still occur. This means that you need to develop your own inspection systems rather than wait for someone else to catch your mistakes.

For example, when a secretary makes an error in a letter, the most cost-effective solution is for the secretary to catch it and correct it, thus preventing the error from going out further. But suppose the secretary doesn't catch the error. The boss finds the typo, circles it, and gives the draft back to the secretary for correction. Now, the cost of quality includes not only the secretary's time but also that of the boss.

“If a customer does bring a problem to your attention, you should consider yourself lucky.”

It could be worse. Suppose this letter is written to a customer, and suppose that neither the secretary nor the boss catches the error. The important customer sees the error and thinks, "How can I trust these people when they can't even send a professional letter? Maybe I should take my business elsewhere." Now the boss may have to get on the phone or visit the customer to make amends. At best, the boss's time has been used up in regaining the respect of the customer. At worst, the customer has been lost.

Ideally, a customer will never have a reason like this to complain to you or your organization. However, if a customer does bring a problem to your attention, you should consider yourself lucky. Research indicates that only about 4 percent of dissatisfied customers complain to their suppliers. The other 96 percent tell their friends and associates instead. Thus, they become ill-will ambassadors who undermine your organization's reputation and help competitors take away business from you.

An old rule of thumb says that a satisfied customer will tell three people, but a dissatisfied customer will tell twenty people. Although making amends to a customer for a mistake is costly, it is still less costly than losing the customer altogether.

The Cost of Quality: A Competitive Advantage

Traditional ways of measuring performance often place managers and their departments in competition with one another. They are often evaluated on different criteria that may not take into account how well they work together toward organizational goals. Sales may be evaluated by number of trips booked, seats sold, new accounts opened, or contracts received. Production may be evaluated by output per hour or number of units shipped. Accounting may be evaluated by accuracy and ability to keep costs down. Quality control inspection may be evaluated by the number of defects discovered in the organization's products or services.

Different criteria for different departments cause conflicting values. Production sees the ideal world as one with long lead times and high predictability, as well as a limited product line. For marketing and sales, the ideal world has a warehouse or service operation on every street corner, along with an infinite variety of products that meet every whim and fancy of the customer and that cost next to nothing. Finance values a company without buildings, equipment, or even people, where resources can be shifted to the hottest investment opportunities. These opposing values lead to conflict and competition among the different functions. To some degree such conflict is con-

structive. What better way to raise key issues than to have marketing pushing its position against production, or finance pushing its position against marketing? But it also results in competition for resources and a win-lose mentality in which one function's gain is another's loss.

A more effective model for organizations is a network of mutually reinforcing dependencies. If, for example, finance doesn't provide the resources for better equipment, production loses the opportunity to raise productivity or cut costs.

In today's tough, competitive environment, the win-lose mentality is even more destructive than it was in the past. To succeed in this tougher environment requires an ability to move faster with fewer mistakes, to cooperate rather than compete, and to create win-win situations. The traditional measures simply don't do the job. A new measure is needed, one that encourages cooperation and teamwork. The cost of quality can provide that measure.

You and Your Customer

“Work in the modern organization has become too complex to be managed and controlled only from the top down.”

In recent years, more and more organizations have realized that quality is important to gaining a competitive advantage and essential to a company's survival. This increased awareness has created a unique opportunity for organizations to apply the principles of quality to day-to-day management in order to make fundamental and lasting improvements in how they do business.

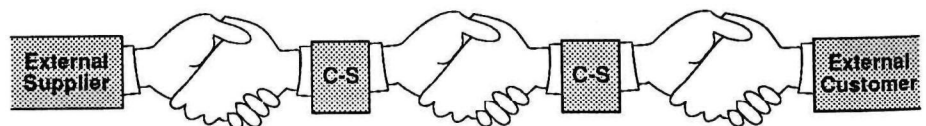
The key to quality improvement is to recognize and then act on one simple proposition: Quality begins and ends with the customer. While most organizations recognize the importance of the customer, many fail to align their capabilities with the customer's needs. Outdated managerial practices and organizational structures often frustrate the company's ability to meet customers' needs.

Most organizations are structured into specialized functional units whose members are more loyal to their function than to the organization. These units compete with one another for money and resources. The route to the top in these organizations is through the vertical chain of command. We call this *chimney stack* management because people get ahead by moving upward in one vertical cylinder—defending the interests of marketing or administration or region C rather than the interests of the organization as a whole, much less the customer.

Other organizations are managed by the matrix model, which attempts to link people across functions. In practice, this model sometimes adds to confusion and conflict by imposing a second reporting structure. Neither model seems flexible enough to manage the complexity of a modern organization in a way that ensures continuous responsiveness to customers. Why? Work in the modern organization has become too complex to be managed and controlled only from the top down.

The Customer-Supplier Chain

Managers at all levels are discovering that they can increase effectiveness and efficiency by encouraging their employees to see themselves as one another's customers and suppliers, linked in a chain that extends back into the organization from the ultimate, external customer.



This simple structure can support complex work processes. It represents the natural flow of work across functions and between employees in an organization. In many companies, only a small percentage of employees have direct contact with the organization's paying customers. However, all of us depend on others for the products or services we need to do our jobs. We are suppliers to the people who depend on us for input and customers of the people who supply us with output.

In fact, work can be seen as a *process* in which customers receive *inputs* (e.g., machine parts or data) from their suppliers, *add value* (e.g., assembly or information processing) to those inputs, and then pass *outputs* (e.g., assembled units or finished reports) on to their own customers.¹

You can describe a process broadly (processing a customer's request from the first meeting or telephone inquiry to payment for work completed) or narrowly (ordering a needed part for a computer). Either way, the customer's needs are better satisfied if the people from the separate functions—parts, customer service, field service, and billing—are all trying to meet the needs of the next internal process, rather than if they are primarily concerned about the welfare of their own functions.

As a manager concerned with customer satisfaction in a competitive world, you don't want your parts department thinking only of its own interests and asking, "How can we minimize inventory and thus reduce costs?" Rather, you want your parts department thinking of its customers' interests as well as the organization's interests and, therefore, asking, "How can we make sure we have the parts the service department needs to do its job without carrying unnecessary parts in inventory?"

Alignment

Alignment, or the matching of supplier *capabilities* with customer *needs*, is a requisite of the quality process.

The process of alignment begins with a redefinition of the customer-supplier relationship. Rather than see each other as adversaries trying to take advantage of each other, customers and suppliers work together as collaborators to achieve alignment. Their collaboration must also help promote the overall goals of the organization.

¹For more on the internal customer-supplier chain, see G.H. Labovitz, "Keeping Your Internal Customers Satisfied," *Wall Street Journal*, July 6, 1987.

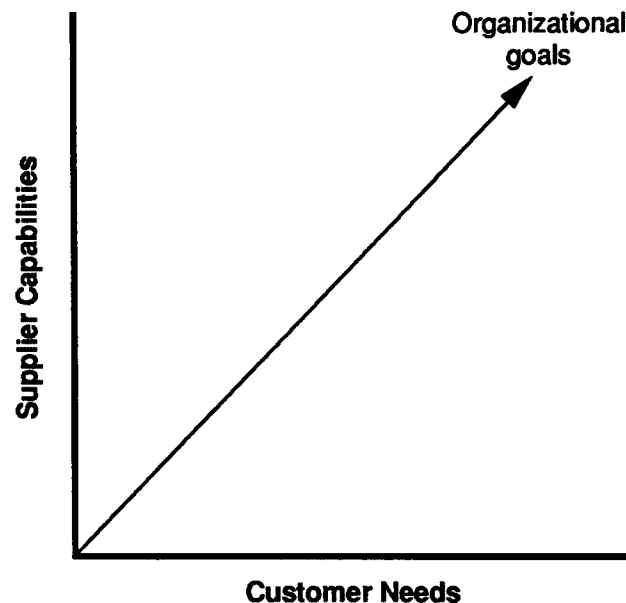
When you achieve alignment, customer satisfaction becomes a shared goal; it is no longer the burden of the supplier alone. Internal customers are responsible for making their needs known to their suppliers.

Why should the internal customer make this effort? Because the ultimate goal of alignment is to support the mission of the overall organization. And this is the one goal that applies equally to all your employees, in both roles—customer and supplier.

Conceptually, alignment is easily grasped. It has three variables: (1) customer needs, (2) supplier capabilities, and (3) organizational values, vision, mission, and strategies—or what we shall refer to for simplicity's sake as organizational goals.

As a manager, your challenge is to help your people achieve three-way alignment. That means matching supplier capabilities with customer needs, to reach the goals of the organization.

Alignment

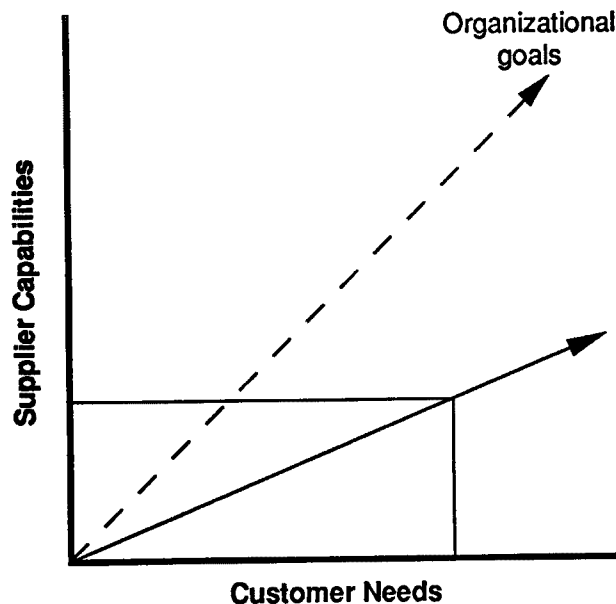


In every transaction, both customers and suppliers must have their needs and interests met, or alignment will not occur. If customers feel that the value of the product or service isn't worth the price, they won't buy it. On the other hand, if suppliers don't feel that they are receiving a fair price for the product or service, they won't willingly sell it.

Traditionally, suppliers within an organization have had a captive market in their internal customers, so they have not had to take their internal customers' needs into account. In more and more organizations today, however, managers are free to decide whether to buy their services internally or purchase them outside, thus forcing internal suppliers to become increasingly customer oriented.

One of the dangers in seeking customer-supplier alignment is that the supplier will go overboard in meeting customer needs and will subvert organizational goals.

Lack of Alignment with Organizational Goals

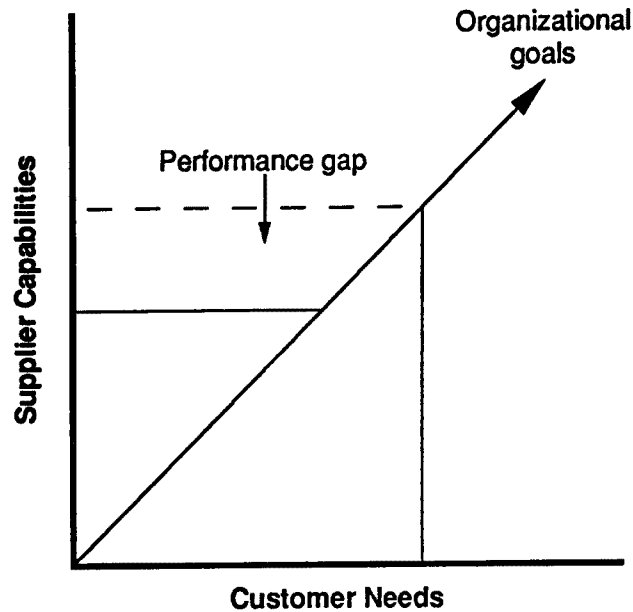


As a manager, you need to monitor carefully the alignment process between your employees and avert situations in which customers and suppliers may be seeking alignment in ways that will not promote organizational goals.

Gaps

Sometimes supplier capabilities lag behind customer requirements. That is, while the customer's needs are in line with organizational objectives, the supplier lacks the capability to meet them. This results in a performance gap, which usually requires rework to prevent customer dissatisfaction.

Performance Gap



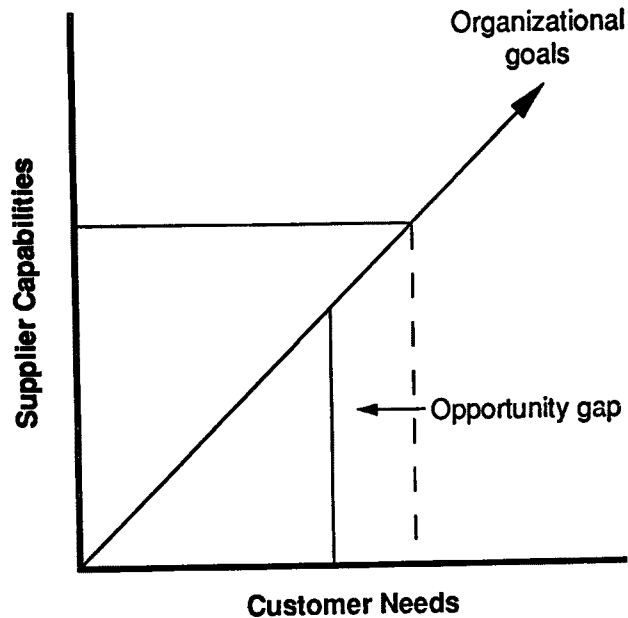
In this case, suppliers need to increase their capability to meet customer requirements, or they'll lose the business to someone who can. And customers need to provide clear and complete feedback to help their suppliers close this gap.

A gap can also occur when supplier capabilities exceed customer requirements. If you are giving customers more than they want or appreciate, you are, in the short term, wasting your effort. A customer who wants to buy a telephone that will last five years won't pay extra for one built to last forty years if given a choice—unless, of course, you can convince this customer that it is worth making the additional investment.

Educating the customer about some of your potential capabilities opens the door to even higher levels of alignment, especially if no competitor is able to match these capabilities.

Opportunity Gap

"You need to know your boss's objectives, and your people need to know yours."



Building Customer-Supplier Alignment

How do you foster customer-supplier partnerships that build alignment?

First, you must identify your own customers and suppliers, and then meet with them to discuss and agree upon requirements. To help facilitate this exchange, we suggest you ask the following questions of your customers:

- What do you need from me?
- What do you do with what I give you?
- Are there any gaps between what I give you and what you need?

Next, you must help your employees understand alignment. Meet with them to make sure they follow through with their customers and suppliers. To do this effectively, you need to know your boss's objectives, and your people need to know yours. That way you can ensure that the alignment processes between customers and suppliers actually contribute to organizational goals. The same three questions can be used to clarify requirements between managers and employees, who are customers of and suppliers to one another.

Third, once the requirements are agreed upon, focus on a few highly visible work processes. The requirements tell you *what* needs to be done; the work processes show *how* it should be done. In the course of this program, you have been introduced to flowcharting. A flowchart describes the steps in a work process in graphic form. When you bring together the people involved in a work process and have them draw a flowchart, you and they can sometimes resolve conflicting perceptions between what is *actually* happening and what *should be* happening. The flowchart also makes it easy to identify unnecessary steps and bottlenecks. Once these are identified, you can work to eliminate them, thus improving your capability to meet your customers'—and your organization's—needs.

Alignment Works

A major division of Jostens, a *Fortune* 500 publishing company based in Minneapolis, committed itself to total quality improvement as a long-term competitive strategy. The first step in this effort was making sure everyone in the division knew that he or she had his or her own customers and suppliers, according to Fred Bjork, divisional vice president and general manager.

That realization "opened up all kinds of doors," Bjork recalls, "because people suddenly had a context in which they could surface problems and iron them out together. What might have been taken as 'bellyaching' before was now seen by suppliers as helpful feedback."

Jostens Printing and Publishing prints high school and college yearbooks. The division's dedication to internal customer satisfaction was soon extended to external customers. "Our customers—the students and the schools—are also our suppliers. They provide the text, pictures, logos, and other art we need to produce their yearbook," he explains.

"We've had great success expanding our customer focus to the students. By helping them see their relationship with us in customer-supplier terms, we have significantly reduced the proofing and approval process. And they feel more comfortable and involved throughout the production process," Bjork adds.

Organizational Collaboration

We've all read stories about people in flood-stricken areas who form a human chain to pile sandbags against a rising river. Working together, they safeguard their homes and families.

The sandbags are passed from hand to hand—supplier to customer, supplier to customer—and put in place to form a dike. The first few exchanges are awkward, but soon suppliers and customers understand one another's needs and capabilities, and the flow becomes smooth and orderly. The partnerships between people enable the sandbags to flow faster and faster to the end of the line. If the citizens can keep the river from flooding, the whole community benefits.

A cooperative and effective human chain benefits organizations too. Working toward quality goals fosters greater organizational collaboration based on alignment and on strong customer-supplier relationships.

When you manage your work processes in a way that encourages alignment and facilitates customer-supplier partnerships, you are pushing responsibility and encouraging initiative through the entire organization. The resulting gains—in communication and commitment, in effectiveness and efficiency—will go a long way toward creating a competitive advantage for your organization.

Continuous Improvement—Doing Right Things

“When trouble erupts, many organizations spend more time fixing the blame than fixing the problem.”

Everyone agrees that continuous improvement is an eminently sensible and cost-effective way to maintain an organization's competitive edge. When employees constantly improve the way they do their jobs, they strengthen the organization's ability to meet the needs of its customers.

In practice, however, many organizations do little more than pay lip service to continuous improvement. Subscribing to the adage "If it ain't broke, don't fix it," many managers find little time for improvement efforts. Even the best-intentioned managers, facing new crises every day, can find their continuous improvement program turning into sporadic improvement—or no improvement at all for months at a time.

Organizations often do not learn from mistakes; many don't study their mistakes to find the lessons they contain. The saying "Those who ignore history are bound to repeat it" has a corporate corollary: "Those who don't learn from their mistakes are bound to make them again." Since continuous improvement is an excellent way to avoid making the same costly mistakes again and again, why don't organizations take it more seriously?

There are several reasons. Organizations, like people, often don't confront their difficulties or acknowledge their errors because it's painful and embarrassing to admit mistakes. The most common response to a problem is to deny it, minimize it, or blame it on someone else. When trouble erupts, many organizations spend more time fixing the blame than fixing the problem.

“Turning an error into an opportunity for improvement is a key component of the quality process.”

Then, too, some organizations wish to maintain an aura of invincibility, which discourages the bearers of bad news. In a variation of the "kill the messenger" syndrome, word goes out that only good news is welcome. In those organizations it is an unlucky employee—or manager—who challenges the conventional wisdom, no matter how misguided it might appear to be.

Searching for Buried Treasure

Fortunately, the quality revolution has fostered a new attitude. Organizations are discovering that learning from mistakes is integral to continuous improvement. Turning an error into an opportunity for improvement is a key component of the quality process.

Japanese industrialists have even been known to refer to a mistake as a *treasure*, a golden opportunity to find out what went

wrong and make changes. The lesson for managers is simple: Milk mistakes for all they're worth. Learn everything you can from each one. No one can do right things right the first and every time, but everyone can become wise enough to avoid making the same mistake twice.

One reason Japanese industrialists can view mistakes so positively is that they have embraced a rule first put forward by Deming. The rule states that 80 to 85 percent of errors have common rather than special causes. Common causes are created by systems, which are controlled by management. Special causes are due to individual events or behavior, which are controlled by individual workers. If an error is caused by a defect in a system, it presents an opportunity for a permanent improvement in the system.

When an organization responds to a crisis with finger pointing, employees react by concealing information instead of sharing it, and everybody loses. One of the major challenges in managing quality is to create a climate in which everyone feels free to share experiences (good and bad) and to learn from mistakes without resorting to defensiveness and faultfinding.

The Three Elements of Continuous Improvement

Once you have established a climate that supports continuous improvement, you need to think systematically about how to make improvements. Here are three ideas that will help.

1. Fix problems on the spot.
2. Prevent problems from occurring in the first place.
3. Improve your ability to meet customer needs.

Let's look at each of these elements in turn.

Fix It!

To err is human—but machines make mistakes too. Unless the day comes when everyone—and everything—in your organization can do right things right every time, you need ways to catch errors and fix them. Many managers belittle quick fixes on the grounds that they are not lasting solutions, but a skillful and timely fix plays an important role in quality improvement.

Correction costs are *not* all created equal. They can be divided into three distinct categories.

1. Mistakes caught and fixed in your work area. These fixes are known as on-the-spot corrections, and they represent the most cost-effective way to catch mistakes.
2. Mistakes caught and fixed internally after they leave the work area where they are made. Sometimes called downstream correction, this is the next best way to catch mistakes.
3. Mistakes caught by the external customer. This is the most expensive way to catch and fix an error, because the damage to your organization's image and to the relationships with your customers far outweighs the cost of repairing the product or improving the service.

A good rule of thumb for comparing the relative costs of these three fixes is the 1-10-100 rule. This rule holds that for every hour or dollar your organization spends correcting a problem on the spot, it costs ten times that much to correct it downstream. To repair a mistake discovered by an external customer—and to repair the damage to your reputation—will cost one hundred times as much time or money as fixing the mistake on the spot.

Still, it is better to know about a mistake from a customer than never to know about it at all. Research indicates that 96 percent of your dissatisfied customers will never tell you about their quality complaint, and so will never give you the chance to fix it. But they will tell their friends and associates, thus costing you future business.

Since satisfying your customers is in your best interest, here are three guidelines for fixing problems on the spot.

1. *Fix it right away, while it's happening.*

The sooner you catch a problem and correct it, the easier and cheaper the solution will be. Take time to fix it *now*, and you save all the rework and other problems that occur when the problem gets downstream or to the customer.

Remember the old adage, "A stitch in time saves nine."

“Prevention is at the heart of quality improvement.”

2. *If you can't fix it, get someone who can.*

Sometimes you spot a problem that's outside your control. In these situations you need to alert the people who can do something about it. You may see from its smeared copies that the office photocopier is about to break down. Don't wait for someone else to discover the problem or for the inevitable breakdown to occur. Instead, inform whoever is responsible for the copier.

3. *Use your instincts.*

From your extensive knowledge of your work, you have your own ways of knowing when something is going wrong. Trust your internal warning system, which reflects a wealth of experience and judgment. If something doesn't sound right, feel right, or "smell right," investigate.

Prevent It!

Prevention is at the heart of quality improvement. The way to maximize the percentage of time you spend doing right things right is to institute prevention systems *before* work begins. Every time you fix a problem you should ask, "Can this problem crop up again?" If the answer is yes, it's time for prevention.

If you have to fight fires, you may not have time for prevention. And you may prefer the excitement of fighting fires to the discipline of prevention. But the enormous payoff from prevention will also be exciting in the long run.

You already prevent problems in everyday life. Consider driving. While the number of automotive accidents and deaths is disturbing, it's also astonishing that the figures aren't higher. The possibilities for error are tremendous. Driving on the wrong side of the road, changing lanes without looking, falling asleep at the wheel, and becoming angry in traffic and ramming somebody deliberately (instead of just thinking about it) are just a few of the ways to make an accident highly probable.

What prevents these potential accidents? A combination of traffic signals, safety devices, police presence, driver training and experience, and plenty of common sense and personal attentiveness. Highway safety involves both a technology and an attitude of prevention, supported by rewards (and punishments).

Just as you practice prevention when you drive, you already take many preventive measures on the job. However, there are still many areas where prevention is not valued. How can quality—doing right things right—be ensured? Again, as in driving, you need to think about prevention all the time, watching to see if anything can go wrong, and developing innovative ways to make sure things go right. You also need the support of all the pillars of quality. Unless managers provide the time and resources necessary for prevention, errors are just waiting to happen.

Prevention consists of identifying and defining problems, analyzing and eliminating their root causes, finding better solutions or ways of operating, implementing these solutions, and evaluating the results. This kind of problem elimination can be time-consuming and difficult. Too often, we act without adequate information—and then have to rework our solutions.

A model, or framework, can help you systematically work through a problem and find its solution. The first step in eliminating a problem is to define it carefully, collecting data about when and how it occurs. Then analyze your findings to uncover the root causes.

The *Why* Technique

One way to do this is by using the *why* technique. Gather people who are familiar with the problem and ask them why the problem occurs. Then question each answer, asking why *that* is so. Continue asking why until you have traced the problem back to possible root causes. Test the validity of your hypotheses by collecting data. Understanding the *whys* of a problem may make solving it easy.

To see how this works, consider the following scenario. Suppose that as director of dietary services you are confronted with hospital patients' complaints that their food is cold. After collecting data, you find that it's really only the eggs at breakfast that are cold when served. If you stop here and base your solution on the data you have collected so far, you might develop a system for reheating individual trays for patients who complain. This solution would involve a lot of time and money. But if you look further, you can discover a common cause and prevent patient complaints.

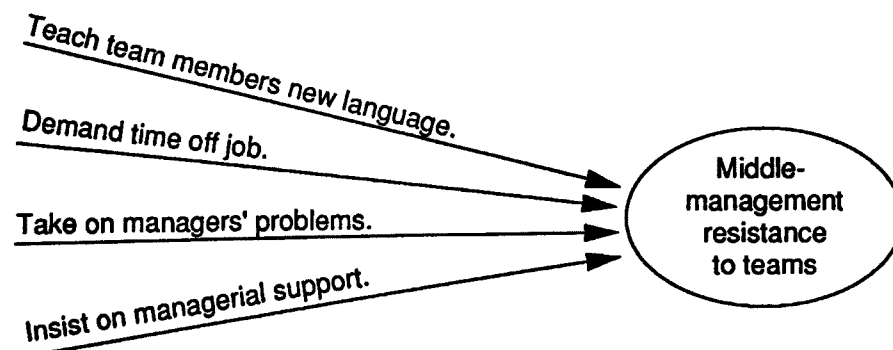
Using the *why* technique, you ultimately discover that the kitchen holds the cooked eggs in unheated trays. When you discuss this problem with the cooks, they agree to keep the trays over hot water. You verify that the eggs now leave the kitchen hot. Three weeks later, you check with the patients and find that they no longer complain about cold food. You have eliminated a problem and prevented it from happening again.

Asking the patients again after the solution is in place is a way of monitoring your new process. Monitoring and measuring are important in both problem solving and prevention because they provide precise feedback. Before making a change, you must have accurate information about the current situation. After making the change, you need to know if the situation has improved. If you don't know, for example, how many people complained about cold food, you can't tell whether or not the number of complaints has decreased. You will need this information not only for one particular improvement, but also for any further improvements you may want to make.

The Contingency Diagram

Eliminating problems by attacking their root causes requires skill, time, and practice. Here's a simple tool for troubleshooting a present or future situation: Use a contingency diagram to generate a prevention checklist. The contingency diagram uses reverse logic. First, think of ways you can *make* the problem happen.

For example, suppose you want middle-management support for quality improvement teams. Gather a group of people interested in the problem and brainstorm ways of guaranteeing that middle managers *won't* support quality improvement teams. Your ideas might include: teach team members a strange language the managers don't understand, demand that teams get time off from their jobs (without adequate explanation), announce that the teams will work on problems middle management has been unable to solve, and insist that managers support the teams without question.



Next, examine every cause of managerial nonsupport you identified and make a checklist of how to avoid these causes. In this case, your list might include: train managers before training team members, negotiate with managers about released time for team activities, structure input from managers into problem selection, and encourage managers to voice and resolve their concerns.

Prevention Checklist	
✓	Train managers first.
✓	Negotiate with managers for time with team.
✓	Invite problem-selection input from managers.
✓	Encourage managers to voice concerns.
✓	

Improve It!

The goal of continuous improvement is more than just preventing and fixing problems. It's even more than striving to always meet customer requirements. Continuous improvement means just what it says: always looking for ways to improve how you do work and better meet your customers' needs. Can your product or service be made even safer? More reliable? More cost effective? Longer lasting? Easier to use? Can your production process or service delivery be simplified? Constantly addressing questions such as these can help you and your people develop an attitude that promotes continuous improvement. But even that isn't enough. You need to find ways to make examining and learning from mistakes a routine part of the way you manage.

A Continuous Improvement Strategy

How can a manager support fixing problems instead of fixing blame? One strategy is to hold a review session at the end of a project. Review sessions provide an opportunity to give and receive feedback, as well as to learn from the good and bad things that happened during a project.

Here's one example. During a four-month project, there had been many complaints about communication. There had also been a lot of confusion and errors because old drafts had gotten mixed up with successive copies of the report.

The week after the project ended, the members of the project team met for ninety minutes to critique the experience. The team leader gave each person a chance to spend up to five minutes outlining what he or she had learned in the course of the project. "What were you most satisfied with?" she asked. "What do you wish had been done differently? What surprised you—positively or negatively—about working on this project?" The team leader captured the gist of each person's comments on a flipchart.

On the basis of these comments, the team developed recommendations for future projects. They agreed to use electronic mail more frequently to streamline communications, and to date successive drafts of project reports in order to eliminate confusion and rework.

In addition to developing ways to improve their workflow, the team celebrated their successes and cleared up misunderstandings, enabling them to start the next project with renewed enthusiasm.

Imagine the payoff if everyone in an organization is empowered to look for such lessons and act on them.

Continuous Improvement in Meeting Customer Requirements

Customer requirements change. Therefore, your capabilities must change in order for you to keep up with, and ahead of, your customers' requirements. Ask yourself the following questions:

1. What am I doing now that is unnecessary for satisfying customer requirements?
2. Are there better ways of doing what is currently necessary?
3. What untapped capabilities do I have for meeting current customer requirements?
4. How will my customers' needs be different in the future, and how can I prepare to meet them?
5. How can I meet my customers' requirements faster, cheaper, and with fewer errors so that I can maintain or enhance my competitive edge?

-
6. How can I involve my customers and suppliers in looking at my work process, not only to tighten alignment, but to reduce my avoidable costs of quality?

Forming partnerships with your internal customers and suppliers is a good way to improve your capabilities. Here's how it works: Each person forms a partnership with the next person in the process to figure out how to better meet the needs of the third person in the process. These *three* people then join forces to figure out how to better serve the next person in the chain. If this collaboration continues up and down the entire chain of customers and suppliers, then the whole organization will integrate and focus on better meeting the needs of the external customer.

Is this a pipe dream, an unreachable goal? It doesn't matter whether it is or not. Even if the ideal is not perfectly realized, an organization that strives for a totally integrated customer focus can achieve a level of responsiveness, innovation, and cost-effectiveness unmatched by any of its competitors.

How Can You Support Continuous Improvement?

Continuous improvement means fixing problems on the spot, preventing problems before they happen, and improving your ability to meet new or existing customer requirements. You can do all of that as an individual. You can do it even better when your organization backs you up with systematic support by responding quickly to problems, providing the time and methods needed for prevention, and fostering innovation and adaptability.

Here are ten actions you, as a manager, can take to support continuous improvement in your organization.

1. Give your people the big picture. When they know your vision, they can better see where they fit in.
2. Solicit new ideas. Give timely, constructive feedback on all the ideas you hear, along with recognition for those that are worthwhile.
3. Encourage everyone to talk—preferably in person—with his or her customers and suppliers.
4. Make your people responsible for finding out how their outputs are really used.

-
5. Encourage people to create flowcharts of their work processes and look for ways to make improvements.
 6. Make your work area a safe haven for the open discussion of problems. Encourage learning from experiences, both good and bad, and share that knowledge. Discourage blaming and defensiveness of any kind.
 7. Encourage problem solving. Place a premium on "speaking with data." Make sure your people have found the root causes of problems before they attempt solutions.
 8. Uphold high standards and model them in your words and actions.
 9. Encourage all of your people to have periodic discussions in which they take a fresh look at their customers' needs, how they meet them, and how they use the feedback they receive.
 10. Be alert to developments in other fields that you can adapt to your own work.

Payoffs from Continuous Improvement

Continuous improvement means small but beneficial changes that add up. It also means breakthroughs. These breakthroughs spring from forming partnerships with customers and suppliers and from taking a fresh look at what you do and how you do it; often you'll find a significantly better way.

The first step toward such a breakthrough is asking the question posed in module 3: "What do you do with what I give you?" The more you know about the actual use customers make of your outputs, the more you will be able to think of better ways to meet their needs. The choice is yours. Only you can create a Big-Q organization.

What are the payoffs for you? You will experience more candor and teamwork; fewer hassles as you solve and prevent problems; greater responsibility; and more job satisfaction. Life in a little-q organization may seem easier and simpler, but life in a Big-Q organization is much more challenging and rewarding. Big-Q empowers you to take responsibility as an individual for doing right things right, for clarifying and honoring commitments, and for making things better.

The payoffs of quality—customer satisfaction, individual pride, and profitability—are enormous for everyone.

Quality Action Teams

“Today’s competitive environment demands constant attention to improvements in quality.”

Imagine an organization where everyone—not just management—is committed to improving both quality and productivity, shares responsibility for achieving organizational goals, and uses a common problem-solving language. That’s the kind of organization that quality action teams (QAT) can help you build. Based on years of applied management research in dozens of countries, QAT is rooted in the idea that the most important goal for any organization in the 1990s is the pursuit of quality, not only in services and products but also in every aspect of the work process.

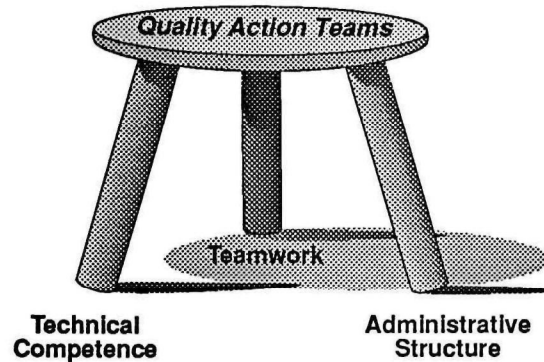
Why quality? Today’s competitive environment demands constant attention to improvements in quality. Consumers are ever more insistent on getting full value for their money, whether they’re buying goods or services. They want to know that what they’ve bought will work well and keep working well. Reputations and relationships are established that make consumers return again and again to the proven vendor of quality—even if the price is higher. The organization that fails to strive for a measurable increase in quality every year will fall behind.

Conventional wisdom in many organizations holds that quality is costly and that it always competes with productivity, timeliness, and other critical factors. This theory of trade-offs may be true in extreme cases but otherwise has proven to be false. Actually, improved quality means less rework and, therefore, higher productivity. But to get a high payoff, quality has to be built into the actual work process. It’s far cheaper and more reliable to build quality in than to try to inspect it in later. What’s needed is a system for involving every employee, at every level, in designing the work process for maximum quality and minimum cost.

Fortunately, it’s not hard to involve people in the quest for quality. Both employees and consumers recognize and admire quality. They derive a sense of satisfaction and pride from their association with a high-quality organization and product.

The Three Pillars of QAT

Quality action teams work well because they're a balanced system that rests on three pillars: (1) technical competence, (2) teamwork, and (3) administrative structure.



Just as a stool will fall down if any one of its legs is missing, QAT also needs each of its three pillars to be strong.

1. *Technical competence* lets team members experience success and personal development as they learn to use new skills. Problem-solving steps and tools relate directly to doing things right, that is, to getting high-quality work done in the most efficient manner.
2. *Teamwork* is crucial because without it ideas that are technically correct may still be doomed to failure. Teamwork is the ability to communicate with and take account of others—the basic human relations that are the underpinning of a successful organization.
3. *Administrative structure* is absolutely necessary if technical competence and teamwork are to be integrated within an organization. QAT is not a natural process for most organizations. It competes with other philosophies, habits, and priorities. If it's not supported by a committed organizational structure, it will simply be absorbed by the usual way of doing things.

Any single pillar of the system can be emphasized, perhaps successfully, for a time, but used alone it will soon lose its impact.

“Very quickly, QAT leads to greater organizational integration.”

For example, Rensis Likert and Stanley Seashore² explored what happened when organizations implemented just the technical pillar. They looked at a number of companies that had taken “strong steps to reduce costs, eliminate waste, and increase productivity.” In the first year’s results, there were usually measurable gains in productivity, earnings, and the like. Management had definitely changed in the desired direction. But even by the end of that first year, Likert and Seashore began to see declines in employee attitude, motivation, and communication.

As they watched for a longer time, these employee reactions began to take very measurable forms. Turnover and absenteeism increased, as did labor grievances. The quality of products and services suffered, and in the end customers reacted by taking their business elsewhere. The initial gains had been overshadowed and offset by adverse reactions.

A similar dynamic of initial gains and longer-term losses is likely to be encountered by a purely human relations program that doesn’t emphasize high standards of quality and production at the same time. As you work with QAT, you’ll need to preserve the balance between the three pillars of this program, never over-emphasizing one at the expense of the others.

The Benefits of QAT

The first thing you’ll see as you implement QAT is a change in attitude. Employees who participate take much greater personal responsibility for the success of all aspects of the work process. This shows up in better morale, less blaming of others, and a more positive attitude. It also shows up in higher productivity, lower absenteeism, and fewer employee grievances. After about six months you’ll see the teams beginning to solve specific quality problems. As they implement their ideas, they will produce cost savings, improve service, reduce waste, and, most importantly, begin to improve the quality that the outside customer receives.

Very quickly, QAT leads to greater organizational integration, producing improved communication up and down the hierarchy. Side-to-side links are enhanced as groups of managers begin to use the team problem-solving approach to deal with the problems they have in common. This happens because QAT provides a

²Rensis Likert and Stanley E. Seashore, “Making Cost Control Work,” *Harvard Business Review*, Nov-Dec. 1963.

legitimate and structured way for employees—both workers and managers—to have a more effective say in improving the way work is done. It's the combination of structured meetings, new techniques, and organizational support that allows these benefits to occur.

Top-Down Implementation of QAT

QAT works best when it has the active support of all levels of the organization. In fact, the same need for management support and involvement is paramount in other such programs, whether developed in-house or implemented by a consultant.

For example, in one study twenty-two experts who had long worked with and studied such programs were asked to rate the influence of sixty-six different factors.³ The scale used was

- | | |
|---------------------|-------------------------|
| 1 = not important | 4 = very important |
| 2 = some importance | 5 = critical importance |
| 3 = important | |

The chart below shows the top five of those sixty-six factors and indicates both the mean score and the variance (a measure of how widely the individual scores differed from the mean).

Top Five Factors to QAT Success

Factors	Mean	Variance
1. Voluntary participation	4.8	.16
2. Top management support	4.7	.21
3. Support of first-line supervisors	4.7	.22
4. Involvement of middle management in the process	4.6	.23
5. Middle management support	4.6	.44

³H. Ned Seelye and Joyce A. Sween, "Critical Components of Successful U.S. Quality Circles," *Quality Circles Journal*, March 1983, pp. 14-17.

“The QAT system is a synthesis of participative management and statistical quality control.”

These data convey one essential message: For a program like QAT to reach its potential, it needs the support, understanding, and active involvement of every part of the organization. This makes sense when you consider that QAT is really a system—not just a bunch of isolated teams. The system requires communication, coordination, resources, and a culture that supports involvement by all employees in quality improvement.

The most logical way to do this is to begin at the top and work down, making sure that QAT is clearly understood and vigorously supported by managers and supervisors before it is used by those who work under them. This is why we recommend that any implementation scheme gain commitment from higher levels before it proceeds down the hierarchy. Of course, the final aim of the program is to reach everyone in the organization.

The Foundations of QAT

The QAT program is based on two management systems that have been studied and developed over the last thirty years and that have become cornerstones of modern organizational success. The QAT system is a synthesis of *participative management* and *statistical quality control*.

Participative management. The concept of participative management evolved from research such as the study conducted in the late 1920s at the Western Electric Company's Hawthorne Works in Illinois. There researchers examined the factors influencing worker efficiency. Flying in the face of the conventional wisdom that "a kick in the pants and a nickel in the pay envelope" would motivate workers, this research revealed that workers' attitudes and nonmonetary needs were at least as important to productivity as working conditions and pay.

For example, the Hawthorne researchers tested the impact of lighting on employee output. They increased the amount of lighting in a sample work area and found that the productivity of the workers increased, as they had expected. To confirm this finding, they then reduced the amount of lighting in a different work area—but productivity increased there as well!

The researchers were puzzled by this apparent contradiction. Interviewing workers, they discovered that it wasn't the change in lighting that made the workers produce more; it was the interest and concern of the researchers that made the difference. This research finding became known as "the Hawthorne effect" and was generalized into a principle of human behavior—namely, that

“Researchers like McGregor and Rensis Likert argued in effect that workers respond in kind to the way they are treated.”

people respond positively to a show of interest in their well-being, almost regardless of the form that interest takes. It gradually became clear that such traditional incentives as money and the threat of job loss were not the only factors involved in worker motivation; other, more intrinsic concerns were at work as well.

In the 1940s, psychologist Abraham Maslow developed a motivational theory centering on a universal hierarchy of needs, from the most basic physiological needs (e.g., air, food, water) to higher order needs (e.g., self-esteem). The hierarchy culminates in a feeling of personal fulfillment that Maslow called *self-actualization*. According to Maslow, as a person satisfied one order of needs—the physiological, for example—needs at the next level became activated, and this implied that motivational techniques had to shift accordingly.

When this theory was translated to the workplace, it was argued that an organization that tries to spur its employees to greater effort with promises of higher pay and fringe benefits may be aiming at the wrong target. Food may be an incentive to a hungry worker, but to one with a full belly and a need for self-esteem, more meaningful job responsibility may be a greater stimulus to productivity.

Still, management hadn't changed its view of the worker as basically passive, someone who had to be motivated from the outside. A carrot had merely been substituted for a stick. But in the 1960s, Douglas McGregor, relying on thirty years of research, challenged even this traditional management assumption. Labeling managers who held such views as "Theory X" managers, McGregor suggested that a new, more enlightened "Theory Y" manager was making his or her way up the ladder of the best organizations, managing more successfully by operating on a different set of assumptions: (1) that work is as natural a human activity as rest and play, (2) that people at all levels of an organization are capable of creative thought, and (3) that given a chance to develop their potential, people will welcome greater responsibility.

Researchers like McGregor and Rensis Likert argued in effect that workers respond in kind to the way they are treated. If management treats them as irresponsible and lazy, then they will act irresponsibly and lazily. If, on the other hand, workers are encouraged to show initiative and take responsibility, they will do so. These, then, were the seeds of the idea of participative management: abandoning the carrot-and-stick approach to motivation and making work more meaningful by encouraging worker participation and responsibility.

“In the 1950s and after, the concept of total quality control was developed.”

Although participative management made good sense to social scientists, it remained until recently a strange and threatening concept to many managers. For one thing, they felt it was unproven. Who could demonstrate that giving managers, let alone workers, responsibility for improving productivity through the techniques of participative management would translate into a better bottom line on the balance sheet? What if it proved an expensive and time-consuming exercise in futility that destroyed organizational discipline and authority?

Moreover, though it was developed in the United States, there was something foreign about participative management. It wasn't something that managers had experience doing. It wasn't taught in M.B.A. programs, and it didn't fit the take-charge, I'm-the-boss-here image that managers had for generations adopted in organizations in the belief that it would produce results. Besides, many would suggest, hadn't the American management system wrought an economic miracle, making the United States the strongest nation on earth and providing the average family with a standard of living unmatched anywhere? When it came right down to it, why tamper with success?

Indeed, there would have been no reason to tamper with success if it had continued unabated. However, despite its economic miracle, the United States eventually had to confront the limits of its success and face the problem of international competition. Since money, working conditions, and job security seemed to have lost their power as motivators for American workers, management needed to consider other alternatives. The work of Maslow, McGregor, and others was persuasive in suggesting that participative management might be worth a try.

Statistical quality control. The second major principle behind QAT is statistical quality control. Quality control got its start in the 1920s at the Bell Laboratories, where the concepts of statistical quality control and control charts were introduced into the production process.

Later, the demands of World War II led the U.S. armed forces to enlarge the scope of quality control to include inspecting outside vendors to see that the military's quality standards were being met in every aspect of the production process.

In the 1950s and after, the concept of total quality control was developed. It was an idea that expanded quality control by (1) making it the responsibility of everyone in the company, from

bottom to top, and (2) including consumers as the final arbiters of quality, to be consulted regularly about their satisfaction with the product or service. Total quality control means that insistence on quality is built into every organizational system and process.

“Quality control programs take advantage of the powerful tools of sampling and statistical analysis.”

Quality control programs take advantage of the powerful tools of sampling and statistical analysis developed by scientists and mathematicians over the last century. These techniques make it possible to understand the capabilities of a process, monitor it, and set specifications beyond which deviations will not be tolerated. Thus, a process can readily be determined to be either *in control* or *out of control*. Minor variations in processes need not signal trouble, but significant variations can be spotted at once and corrected before they become too costly or disruptive.

Moreover, quality control techniques can help sort out problems that are within the control of line workers as well as problems inherent in the system itself, hence controllable only by management. This sorting-out capacity allows problems to be attacked and solved at their appropriate levels.

Synthesis in Japan

Although both participative management and quality control were developed largely in the West, particularly in the United States, the idea of participative management, as we have seen, did not coincide with the traditional hierarchical notions of management which were prevalent. For many years participative management remained more an ideal than a reality. On the other hand, quality control was readily accepted by many American companies as another aspect of the technical rationalization of the work process.

“A process can readily be determined to be either in control or out of control.”

Following World War II, an unforeseen development led to a synthesis of the two concepts. In an effort to make Japan into a westernized nation and a strong ally, the United States sent several American experts, including W. E. Deming, an authority on statistical quality control, to aid Japan in strengthening its industry. The Japanese government and the JUSE (Japanese Union of Scientists and Engineers) supported Deming's ideas, and statistical quality control was adopted by Japanese industry. In 1954 another American, Joseph D. Juran, advised the Japanese that quality control should involve a total program of organizational excellence promoted by management, thus linking quality control to participative management. Excellence would be possible only when everyone in the organization, including the line workers, understood the need for quality and could contribute directly to its attainment.

This idea was refined and implemented by Dr. Kaoru Ishikawa and other Japanese researchers. They developed a system wherein small groups of workers (quality control circles) meet on a voluntary basis to solve their own work problems. Quality was very broadly defined, and these quality circles could work on almost any problem allowed by management. By 1982, twenty years after the first companies formed quality circles, Japan had more than 600,000 circles in operation, involving an estimated eight million workers.

Among the features of Japanese quality circles were

- Company-wide participation
- Emphasis on the education and training of quality circle members
- Solution of problems by quality circles
- Formulation of new standard procedures by quality circles
- Careful monitoring of quality circle activity by management and constant input from management
- Voluntary participation by workers and mandatory participation by management
- Nationwide promotion of quality circle activity

Quality circle programs began in factories, but they now embrace workers in hotels, restaurants, department stores, insurance companies, construction firms, and other sectors of the economy. Today, one out of every eight Japanese workers is involved in a quality circle.

The Synthesis Is Adopted in the United States

For the most part, quality circles were unknown in the United States until Juran, who had worked with the Japanese, introduced the idea to Americans in an article published in 1967. Four years later, in 1971, General Motors introduced a variation of the quality circle concept, which it called *Quality of Work Life*. Since that time, this program has been a model of the system-wide benefits that result when quality circle concepts are adopted by an entire organization.

"Many once-skeptical executives now sing the praises of team problem-solving programs."

By 1982, the International Association of Quality Circles (IAQC) estimated that 1,500 American organizations in the public and private sectors had team problem-solving programs, up from 150 organizations three years previously. These programs, according to the IAQC, involved up to 300,000 workers, in virtually every sector of the economy, who looked for ways to cut costs, improve quality, guarantee on-time performance, lower the accident rate, and raise morale. The results were often dramatic. For example:

- A group of workers at Westinghouse in Baltimore noted that it took fifteen minutes to warm up the wire-bonding machines they worked on and that, while they waited, virtually no work got done. Their solution: Have one worker come in fifteen minutes before the others and warm up all the machines. Estimated savings: \$800,000.
- At Lockheed, where documented savings in the first two years totaled \$2.8 million, one operation managed to reduce the product reject rate from approximately thirty units per 1,000 working hours to fewer than six per 1,000 working hours.
- At General Motors in Tarrytown, New York, the percentage of substandard body welds in one department plunged from 35 percent to 1.5 percent within a few months after a quality-of-work-life program was introduced.
- At a Jones and Laughlin steel mill in Youngstown, Ohio, production of seamless pipe rose 40 percent when employees were encouraged to use participative management techniques.
- The Mount Sinai Medical Center in Florida achieved savings of more than \$189,000 in an 18-month period as a result of its program.

In fact, fourteen QAT users who kept comprehensive cost figures found an average of better than \$14,000 saved per team each year in 1983 and 1984.

Many once-skeptical executives now sing the praises of team problem-solving programs. In the words of Chairman Walter A. Fallon of Eastman Kodak, "You can't drive a good work force 30 percent harder, but we've found we could often work 30 percent or even 150 percent smarter." He explained, in an article in *Fortune* magazine, that the answer lies in instilling a strong sense of teamwork among employees and giving them more say about how they do their jobs.

"QAT gives the people closest to the problems the responsibility, training, and support necessary to solve them."

In the years that lie immediately ahead, the most successful organizations will be those that both innovate and implement effectively. Given the forces of competition and accelerating technology, organizations increasingly need to draw the best efforts from their most critical internal resource: their people. QAT gives the people closest to the problems the responsibility, training, and support necessary to solve them. Implemented vigorously, QAT will help ensure the kind of innovation and implementation necessary for an organization to survive and prosper in the years ahead.

In fact, we have moved far beyond the simple concept of worker teams in the early U.S. quality circle efforts. While retaining voluntary problem-solving teams as one fundamental element, QAT now encompasses a variety of both mandatory and voluntary teams at all levels, cemented together by a strong organizational structure. By giving employees an understanding of how to work effectively in teams and by emphasizing their crucial importance to quality, QAT provides the foundation for a whole series of quality efforts—such as policy deployment from above, clear standards for work which reflect user needs, the ability to work with suppliers to improve their quality, and zero-inventory programs—efforts that together make up a total program of quality improvement for the organization.

Trouble in Paradise

Success stories about participative management are abundant today. But a closer look reveals a number of failures—participative management programs that aren't working and that may leave an organization with less teamwork than when the program started. Why do some programs succeed—often with documented savings of as much as eight times the investment—while others founder?

There is a myth that the problem lies in the difference between the "Japanese way" and the "American way." To be sure, Japan has a very different culture from the West, yet we see frequent examples of successful collaboration between American and Japanese firms. Even more striking is the fact that American workers are sometimes more productive when they are managed by the Japanese than when they are managed by their American counterparts. What, then, is the nature of the problem?

In case after case where participative management programs fail, we see that management wasn't brought in at the outset to understand the new program, learn to make it work for them, and contribute to its design and implementation. Participative management has too often solicited the participation of the workers but

not of the managers. Managers who were not adequately prepared for and involved in the participative program viewed the new system as undermining their ability to function effectively, and they actively resisted its implementation.

The Japanese are accustomed to a consultative mode of operating that involves all levels of the organization. There is nothing foreign about this; American companies with successful employee involvement programs do exactly the same. The support and involvement of management are vital to the success of these programs, and when that support and involvement are present, the programs succeed.

All that problem-solving teams require to be successful is good management, which involves (1) listening to ideas and opinions and considering them seriously, (2) making information easily accessible instead of hoarding it, (3) planning activities well in advance, and (4) creating an atmosphere in which people feel they are all working toward the same goal.

The QAT Problem-Solving Process

Learning to solve problems effectively is one of the most worthwhile of quality activities. Here are some of the benefits.

- *Problems get solved permanently.* The whole idea of problem solving is to prevent problems from recurring, not just to "clean up the mess" after they happen.
- *The quality of work life is improved.* Every time a problem is solved permanently, it's one more annoyance that doesn't have to be dealt with anymore. As problems get solved, the work begins to go more smoothly, and it's easier to plan effectively.
- *Everyone is able to do better work.* As people (at all levels) learn new skills and see that their ideas are supported by others, they become more involved in their work and are able to do it better.
- *Communication and coordination are improved.* Effective problem solving involves coordination among different individuals and different work units. A problem-solving system creates communication paths that clarify what needs to be done and that help people address problems more effectively.

In the end, a good problem-solving system does much more than just solve problems. It trains everybody in habits of thinking and acting that allow the whole organization to work more smoothly and more effectively.

Outline of the System

The quality action teams problem-solving system consists of four phases. Each phase is complete once you have certain outputs. These are used as the inputs for the phase that follows (except, obviously, in the last phase). Here is an outline of the four phases and the outputs for each.

Phases	Outputs
I. <i>Focus.</i> Choose a problem and describe it.	A written statement of the problem
II. <i>Analyze.</i> Learn about the problem from data.	Baseline data A list of the most influential factors

***“The system—
abbreviated FADE
—works for all
problems, no matter
how big or small.”***

III. <i>Develop.</i> Develop a solution and a plan.	A solution for the problem A plan for implementing the solution
IV. <i>Execute.</i> Implement the plan, monitor results, adjust as needed.	Organizational commitment An executed plan A record of impact

The system—abbreviated FADE—works for all problems, no matter how big or small. Let’s take a very simple example from everyday life to show how the FADE system works.

Focus. Let’s suppose that every so often the circuit breaker for your living room is tripped and all the lights there go out. Each time this happens, you go to the basement, reset the switch, and the lights come back on—until the next time. Finally, you realize that this problem will continue to annoy you until you take decisive action. You want a solution that will safely keep the living room circuit breaker from being tripped.

Analyze. You collect data, testing all the outlets in the house to see which ones are connected to the offending circuit breaker. You discover, to your surprise, that the refrigerator and the upstairs bathroom share the circuit breaker with the living room. You suspect that whenever your son uses a hair dryer upstairs, the circuit breaker is likely to be tripped. You collect more data (by having your son use the dryer) and find that you were correct. You now understand the main factors contributing to the problem. You also have a baseline measure, because you know that the problem has occurred seven times during the last three months.

Develop. Using your analysis as a basis, you consider solutions. You could tell your son not to use the dryer at certain times, but you know that this solution will last only as long as your son’s memory, which is currently not long. To ensure that you solve the problem safely, you decide to have some rewiring done that will lessen the load on any single circuit breaker. You and your son create an action plan to call the electrician, arrange a time for the work that won’t disturb the rest of the family, and get your spouse’s approval to spend the money.

Execute. You secure your spouse’s support for the plan and have the electrician do the work. You are there to coordinate the efforts and make sure the work is done the way you want it. Three months later, there have been no more problems with the living room lights. Your solution has worked perfectly.

“You can compare the FADE system to building a frame house.”

You can compare the FADE system to building a frame house, which involves a few fundamental phases. First, you have to make a foundation. Then you can build the frame. The next phase involves putting on a roof and the external walls. Finally, you can do the internal work.

Within these phases, there’s room for variation. Just as specific houses differ from each other, every problem also is unique and may require a somewhat different approach. The four phases and their outputs are still necessary, but the specific steps that are followed and the tools that are used have to be chosen to suit the situation.

Even so, there’s a particular series of steps (three steps per phase) that works for most problems. There are also certain basic tools (like the hammer or drill in house building) that are almost always very useful for problem solving. These steps and tools are what we teach in the phases that follow. You’ll find that once you learn the steps and understand the tools, you can use them in new sequences, as required by each problem. The steps for each phase, plus a toolbox, are listed below and on the next page. The tools are presented in the order in which you’re likely to first use them. Many of the tools are used again later, just as you’d use a hammer or a drill at many different points in building a house.

Suggested Steps	Tools (in sequence as taught)
------------------------	-----------------------------------------

Phase I: Focus

Step I-A.	Generate a list of problems.	Brainstorming
Step I-B.	Select one problem.	Multivoting Selection grid
Step I-C.	Verify and define the problem.	Impact analysis Problem statement

Phase II: Analyze

Step II-A.	Decide what you need to know.	Checklist
Step II-B.	Collect data—baselines and patterns.	Data-gathering plan Sampling Survey Checksheet

Step II-C.	Determine the most influential factors.	Pareto analysis Fishbone diagram Flowchart
-------------------	-----------------------------------------	--------------------------------------------------

Phase III: Develop

Step III-A.	Generate a list of promising solutions.	Innovation transfer
--------------------	-----------------------------------------	---------------------

Step III-B.	Select one solution.	Cost-benefit analysis
--------------------	----------------------	-----------------------

Step III-C.	Develop an implementation plan.	Force-field analysis Standard operating procedure Action plan
--------------------	---------------------------------	---------------------------------------------------------------------

Phase IV: Execute

Step IV-A.	Gain commitment.	Building individual support Presentation
-------------------	------------------	---------------------------------------------

Step IV-B.	Execute the plan.	
-------------------	-------------------	--

Step IV-C.	Monitor the impact.	Measuring and monitoring Basic descriptive charts Specifications and control limits
-------------------	---------------------	-------------------------------------------------------------------------------------------

Below is a guide that shows some of the common uses for each of the tools. Each tool is taught in only one phase (indicated by the circled checkmarks) but can be used in any of the phases indicated.

Tool Selection Guide

	Focus	Analyze	Develop	Execute
Action plan		✓	✓	✓
Basic descriptive charts	✓	✓		✓
Brainstorming	✓	✓	✓	✓
Building individual support	✓	✓	✓	✓
Cost-benefit analysis			✓	
Checklist	✓	✓	✓	✓
Checksheet	✓	✓		
Data-gathering plan		✓	✓	✓
Fishbone diagram	✓	✓		
Flowchart	✓	✓	✓	
Force-field analysis			✓	
Impact analysis	✓			
Innovation transfer			✓	
Measuring and monitoring	✓	✓		✓
Multivoting	✓		✓	
Pareto analysis	✓	✓		✓
Presentation		✓	✓	✓
Problem statement	✓			
Sampling		✓		
Selection grid	✓		✓	
Specifications and control limits	✓	✓		✓
Standard operating procedure			✓	✓
Survey	✓	✓	✓	✓

How to Learn the FADE Cycle

“Most employees learn the FADE cycle the same way you’d learn to play tennis—learn a little theory, but spend most of your time practicing and doing it.”

Most employees learn the FADE cycle the same way you’d learn to play tennis—learn a little theory, but spend most of your time practicing and doing it. If you’re a member of a new quality action team, you’ll be meeting over a period of time to do one or more projects.

In the team, you’ll get an overview of the FADE cycle. Then you’ll work on your project, learning the details of the steps and tools as you go along. You’ll probably pay more attention to some tools than to others, depending on how much you have to use them for your immediate problem.

You may work this way for three or more months before you finish the first project. By the time you’ve finished it, you’ll have a pretty good idea of how the cycle works. As you get into new projects, you’ll be able to concentrate on other tools and fill in some of the gaps. By the time you’ve finished three or four projects, you’ll be working very efficiently, and you’ll feel comfortable using whatever tool you need whenever you need it. For other employees—particularly leaders and managers—the first exposure to the FADE cycle may be in a training group. There you will try to learn the concepts of problem solving rather than solve an immediate problem. In that case, you’ll probably use any problem that helps you understand the steps and tools. It could be something from work life, from home, or a problem you make up. You’ll probably go through the process more quickly than you would working in a team because you’ll not really be trying to solve the problem. You’ll put a bigger portion of your time into learning than into doing. By the time you’re done, you’ll understand the cycle well enough to help others use it.

“You’re learning some measurement skills and some communication skills that can help you not just in your formal teams, but whenever you try to improve how things are done.”

In either case, you’re learning a process that is simple yet systematic. You’re learning some measurement skills and some communication skills that can help you not just in your formal teams, but whenever you try to improve how things are done. The process we present here can be used equally well in any situation, no matter what you’re doing or what your position may be.

Learning the FADE Process and Tools

Do reading.

Learn tools.

Watch phase video.

Participate in exercises
to practice tools.

Use appropriate tools to
solve quality problems.

Leadership

If *management* is the process of planning, organizing, directing, controlling, and coordinating resources to achieve organizational goals, then what is *leadership*?

Leadership is harder to define than management. What's the extra dimension in leadership?

Think of someone you have worked for whom you regard as a leader. Forget for a moment the qualities you believe he or she embodies. Concentrate instead on what people have said about the leader. Chances are, many of these characteristics are reflected in the following statements:

- "She made me see things in a new light."
- "He took the blinders from my eyes. I could see possibilities I hadn't recognized before."
- "She made me outdo myself; I never realized what I was capable of before."
- "He had a way of bringing out the best in people."
- "She made this an exciting place to work."
- "He set an example for people to follow."
- "Some of the most important things I know about this business, I learned from her."
- "He made believers out of us."

People who inspire tributes such as these are more than managers. They have vision, set directions, and enable people to extend their capabilities. They inspire loyalty and command respect.

In this reading, we will examine that extra dimension that characterizes leaders. We will also learn four distinctive leadership styles: directing, coaching, facilitating, and delegating.

The starting point for a discussion of leadership is an understanding of the bases of social power. What is it that enables some people to direct the work of others?

Bases of Social Power

The answer lies in one or more of these five kinds of power.

“The quality necessary for leadership is referent power; developing this is what leadership is all about.”

1. *Reward power.* Since people are motivated by the desire to satisfy a particular set of needs, rewards are valuable tools for influencing behavior. These rewards take many forms, ranging from money to praise (especially in front of a worker's peers). Most bosses control rewards, and employees understand this.
2. *Coercive power.* While use of reward power is positive leadership, use of coercive power is negative leadership. The stronger the penalty, the more negative the leadership. Every day many managers use both types of power. Whichever type predominates sets the climate within the work unit.
3. *Referent power.* This is the quality that causes an employee to emulate his or her boss. Bosses who have referent power are regarded as role models. Their views, values, mannerisms, skills, and even gestures may be studied and copied. A boss with referent power strongly influences employees' thoughts and actions.
4. *Expert power.* A manager who possesses relevant expertise can influence others because of this expertise. This is the one area in which technical competence, skill, and knowledge can contribute to a leader's effectiveness. Expert power is related to referent power in that knowledge is a respected characteristic.
5. *Legitimate power.* Managers doing prescribed jobs within their rightful authority have, by definition, legitimate power. Because they represent authority, employees normally will follow their lead. In the eyes of employees, only if managers exceed their limits of authority do they lose legitimate power.

All managers have legitimate power; it goes with the title. This power can be enhanced by demonstrated support from upper management. Some managers demonstrate expert power, which can be enhanced by training and experience. All managers have some level of reward and coercive power; this can be enhanced by delegation from upper management. However, the quality necessary for leadership is referent power; developing this is what leadership is all about.

Some managers are unable to control group activities, regardless of the powers bestowed on them, because they are competing for influence with the group's informal leaders, the group itself, or other external factors. Many managers exercise little or no leader-

ship, creating a vacuum that is filled by informal leaders who become de facto influencers of thought and action. Our goal is to ensure that responsibility for influencing the activities of a work unit remains with, or returns to, the formally designated supervisors and managers of these units by helping the managers develop effective leadership styles.

There have long been rival schools of thought about leaders. One holds that leaders are *born*, not made; the other that leaders are *made*, not born.

Universal Leadership

The traditional school contends that leaders are born, not made. There are two variations within this school. One group of adherents says that "natural leaders" are distinguished from "natural followers" by certain *universal traits*. While those who have studied the subject disagree, the popular notion—promoted by Hollywood and the mass media—is that leaders are people of commanding presence, decisive judgment, authoritative voice, good looks, and boundless self-confidence. General George Patton during World War II, John Wayne in any starring movie role—these hard-nosed, no-nonsense risk takers would be leaders anywhere, according to popular folklore.

While there is some truth to this stereotype (most leaders are, after all, decisive and do appear self-confident), the model fails to help most managers; most of us are not now, and never will be, this type of leader.

A variation of the universal-trait theory of leadership holds that leaders demonstrate *universal behavior*. This school believes that if a leader exercises the right mix of direction and control while showing concern for the needs of followers, the result will be high commitment and performance in virtually all circumstances.

A well-known example of the universal behavior theory describes the ideal leader as a team player who shows equal concern for people, quality, and productivity. Yet some situations clearly require more concern for people than for quality and productivity, and vice versa.

Many of us know of fast-rising corporate executives who seemingly could do no wrong in one organization. After a promotion or joining another organization, however, their luck dramatically changed. How many of those in your high school class voted most likely to succeed actually achieved the kind of success foreseen for them?

Situational Leadership

“The key variable in effective leadership is the situation of the followers.”

The school of thought that maintains leaders are made, not born, is based on a belief that there are no universal traits or behaviors, only situational ones; leadership must be appropriate to a situation in order to be effective. For example, a turnaround expert who is taking over a failing company, with orders to cut staff, may need to demonstrate very different leadership qualities from those needed by a leader trying to encourage his or her people to become more entrepreneurial. This school also has two variations.

One is based on a belief that there are certain *situational traits* that make leaders effective in certain situations but not in others. Leaders, these people say, are successful in motivating their followers when both the situation and the expectations of the followers are congruent. President Lyndon Johnson was a brilliant tactician in maneuvering his Great Society legislation through Congress, but his foreign policy skills were not deft enough to avoid the quagmire of a winless war in Vietnam.

The other variation of situational leadership centers on *situational behavior*. A leader who uses situational behavior adapts his or her traits to the circumstances. The concept of situational behavior was popularized in the 1960s and 1970s in the situational leadership theories of Hersey and Blanchard. In their model, successful leadership behavior is contingent upon the maturity and competence of the followers. Arguing that neither autocratic nor democratic styles are right or wrong in themselves, adherents maintain that the key variable in effective leadership is the situation of the followers.

Lee Iacocca was a rising star at Ford Motor Co., but his outspoken manner and entrepreneurial spirit ultimately kept him from gaining the presidency of the company. However, these qualities were precisely what was necessary to revive the flagging fortunes of Chrysler Corp., and today Iacocca is one of America's most admired men. Similarly, John F. Kennedy became a hero when he rescued the crew of his Navy PT boat in the Pacific during World War II. When asked what made him heroic, he simply replied, "My boat was sinking."

In view of this discussion, it is sobering to wonder how many potential leaders—whether "natural" or "situational"—never got their moment in the sun, never had the opportunity to demonstrate their leadership ability.

Hubert Humphrey once said, "Behind every great man there's a surprised mother-in-law!" By the same token, it can be said that there are no great people, only circumstances that create them.

Leaders and Followers

What can we managers learn from the above discussion to help us become leaders? One clear lesson is that we needn't be born leaders to lead. Another is that it is not so much the situation, but our response to the situation, that makes us leaders. A third lesson is that since there is usually no one "man (or woman) for all seasons," something about the relationship between the manager and his or her followers creates a leader. Let's look at how to apply these lessons.

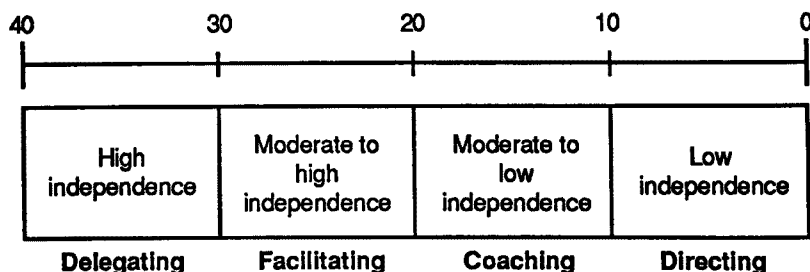
The four styles of leadership available to a manager—delegating, facilitating, coaching, and directing—are illustrated on the scale below. Determining which style is most effective for you is covered in module 6. Your style should reflect both the risk or sensitivity of the job situation and the characteristics of the group you manage. In studying characteristics of groups at work, we need to look at three critical variables.

1. *Ability*. The expertise, talent, and skills required to do the job, and the speed with which the group learns the tasks involved.
2. *Experience*. The group's track record with the kind of work in question, combined with transferable skills or applicable learned behaviors.
3. *Motivation*. The confidence and energy level necessary to assume responsibility for new tasks and to complete them.

Together these three factors measure a group's *independence level*, as represented on the scale below.

The scale tells us that your leadership style should be a function of your group's independence level, as measured by members' ability, experience, and motivation. Match your style to the group, and you should obtain better results from them. In the session that follows, you will find an instrument to help you gauge these factors in your own work unit.

Independence-Level Scale



Another point to stress here is that leading groups, not individuals, is the focus of leadership. The more independence you can grant a group, the more opportunities it has for creativity, innovation, and flexibility. Thus, in most situations, preparing the group for greater responsibility and independence works to your advantage.

Although the group should be the focus of your leadership, keep in mind that the same model can help you determine how to manage any individual within the group. Your relationship with individuals is also a function of their ability, experience, and motivation. When your people, individually or in a group, are capable of working productively with little supervision, you are able to achieve your greatest productivity.

Examples of Leadership

1. *The impossible assignment.* Leader A took over a major airline and set what seemed like an impossible goal: to become the number one on-time airline in the company's area of operation. His staff identified the variables that accounted for delay, researched the factors that caused each variable, and created action plans to prevent or correct each cause. Less than six months later, the goal was achieved.
2. *Redirecting strategy.* Leader B took over a lagging, numbers-driven food manufacturing division in which successive waves of cost cutting had reduced quality, market share, and profits. Decentralizing operations, she restructured the company around strategic menu segments (snacks, main dishes, desserts) rather than specific products, launched a drive to improve quality, and ordered development of new food products that would appeal to discriminating palates rather than to the meat-and-potato set. The upscale approach, tied to quality and not low prices, paid off in higher sales, market share, and worker productivity.
3. *Organizing work.* Leader C was put in charge of the night shift at a printing company noted for its long hours and frequent crises in meeting deadlines. Her predecessor, who had prided himself on being the only problem solver in the shop, had hoarded information. He had been fired for repeated failure to anticipate problems and for chronic cost overruns. Leader C posted a work-flow status report and updated it twice a day; she also scheduled regular staff meetings to involve others in problem solving. What got the troops excited, however, was the goal she set: to reduce job turnaround time by 10 percent within a month, using task force teams to figure out how it could be done.

What made this CEO, this division head, and this first-line supervisor effective leaders? Was it their leadership styles—or something else?

The Common Ingredient

All three got their people excited by

- Establishing a vision, mission, or goal
- Communicating it in a way that fired up the followers
- Making these same followers feel part of something important, uplifting, and satisfying

More important than charisma, bearing, or interpersonal skills, this may be the secret ingredient that vaults someone to a position of leadership: the ability to convey a sense of vision and mission in a way that transforms and enhances the followers' sense of the possible.

Students of the subject say that leaders motivate followers to

- Transcend self-interest for the sake of organizational goals and values
- Raise their need level from security and safety to self-esteem or autonomy
- Share the leader's vision of the importance of the goals or values to the organization's future

In the process, according to researcher Bernard M. Bass, these leaders motivate followers to achieve more than the followers themselves thought they could. They also strengthen workers' commitment to the organization, and induce feelings of trust, admiration, loyalty, and mutual respect.

This may sound like a very tall order, but think about the number of managers you know who are trying to do something even more difficult: practicing heroics day after day.

The Question of Heroics

Because of the mythology surrounding the subject of leadership, many managers still think leadership requires a kind of managerial omnipotence. A manager is seen as a problem fixer, master technician, fountain of knowledge, workaholic—an organizational

counterpart of the fastest gun in the West. The old image persists because many of the people who taught us management thought the secret of leadership was personal heroics.

Yet the example set by today's best leaders suggests that leaders in this day and age cannot be omniscient. Given the technical nature of modern organizations and the range of jobs and skills required, a manager's job is not so much to perform heroics as to produce them. Today's leader is a lot like an orchestra conductor. He or she must know the capabilities of all the instruments, but there's no reason he or she should be able to play them all—or fix them. Others can do these jobs.

"Today's leader is a lot like an orchestra conductor. He or she must know the capabilities of all the instruments, but there's no reason he or she should be able to play them all—or fix them."

Leaders see the big picture. They need not know where all the puzzle pieces go, but they must know what the picture should look like and how to coordinate the efforts of each person who holds a piece of the puzzle. They point out the pattern, and they have the ability to mobilize and excite others to create the picture, or realize the vision.

The president of a giant insurance company attended a staff meeting during which the subject of customer responsiveness came up. The vice president of administration stood up and said: "We're receiving seventy thousand inquiries a month about our services. From now on, I'd like to see us make it a policy to answer all inquiries within two business days." He sat down, feeling proud of himself, and cast a sidewise glance at the president, looking for approval.

The president stood up, thanked the vice president for his idea, and proceeded to tell the staff why that goal wasn't good enough: "We can do better than that," he said. "Imagine if you called an airline to find out about a flight and they said they'd get back to you in two days. Is our business that different? Do our customers deserve any less service than theirs? Can't we make it a goal to get back with some response on the same day?" He appointed a task force to develop a strategy for same-day response to inquiries. Within four months, same-day response was a reality. It also became a competitive advantage, which helped pay for itself in increased revenues.

We began this reading by asking you to think of a leader you have known, and to recall what people have said about him or her. Now, think of the best boss you ever had and ask yourself two questions: What did he or she do to rate as your best boss? How did he or she make you feel?

We've asked these questions countless times over the past fifteen years, and the answers usually are as follows:

What Boss Did	How I Felt
Listened	Valued
Delegated	Challenged
Set high standards	Committed to excellence
Left me alone to do my job	Trusted
Supported me	Cared for
Gave me positive and negative feedback	Developed
Instructed/taught me	Coached

If you want to develop your own leadership potential, begin by learning a lesson from your best boss. Then remember your best leader. Follow their examples.

Summary

We looked at the five bases of social power and contended that one distinguishes a leader from a manager: referent power, the quality that causes people to look up to their boss. We looked at the arguments for and against the theory that leaders are born, not made, and concluded that while some may be born and not made, others are made, not born. What makes people leaders is their response to situations and the relationships they establish with their followers.

We also learned that we use our responses to control and influence many situations. We explored four leadership styles and said that the appropriate style for you depends on three factors: the ability, experience, and motivation of your group. We also looked at some examples of leadership and concluded that it is a leader's ability to mobilize people on behalf of a vision or goal that distinguishes a true leader from an ordinary manager.

Finally, we suggested that if you want to develop your leadership potential, you should think back to your best boss and your best leader and strive to be like them.

Participation and Quality

In the final analysis, there is only one reason to be a participative manager—to get better results. Consider the following examples:

- In a study of participative management programs at four large industrial organizations, Peter Richardson found that successful implementation led to significant cost reductions, improved safety, higher morale, and better employee relations. Long-term success was primarily dependent upon sustained commitment by top management.
- At a consumer products plant of Warner-Lambert Company, an employee-involvement program led to a 21 percent increase in production and a 10 percent decrease in costs over a one-year period.
- A Canadian firm applied participative management techniques to its office-space planning and design. Adjustable work stations were installed, and changes were made to reduce video glare and to improve lighting and acoustics. As a result, productivity rose by 15 percent.
- A printer of educational materials, games, newspapers, and magazines implemented an employee-involvement program at each of its plants. Everyone from first-line supervisors to plant managers learned participative management techniques. Then these people applied what they had learned. Cross-functional work teams found ways to reduce inventory, lengthen production runs, and shorten press downtime. The result: a 17 percent increase in productivity, and more cooperation than management had seen in years.

These are random examples pulled from an expanding body of literature documenting the experiences of countless managers.

Today it is estimated that 10,000 organizations in the United States alone have formal employee-involvement programs, including quality circles and quality-of-work-life projects. In thousands of other organizations, participative management is growing informally. Managers and supervisors are discovering that they can usually accelerate quality and productivity improvement by involving their people in solving workplace problems or in decision making.

What is *participative management*? To begin with, it is not management by democracy. No one suggests that you, as a manager, should have your workers vote on whether they want to come to work tomorrow. You are responsible for the quality, timeliness, and cost-effectiveness of the products and services you produce or deliver. Participative management is the involvement of people in decisions about the design or implementation of systems that affect them.

Authority and Responsibility

Managers who practice participative management have a clear idea of the distinction between authority and responsibility. *Authority* is synonymous with legitimate power. It is the right to command or the power to act. *Responsibility* implies accountability to higher management. As a manager, you can delegate authority—the power to act—but you can never delegate responsibility; you are always accountable for seeing that your unit's work is accomplished, no matter who within the work unit is actually doing that work.

The boss's job is to manage, and the employee's job is to do the work expected of him or her. But the more a manager can delegate authority, the more discretionary time he or she will have to work on more important issues.

The Act of Delegation

Every time a manager delegates work to an employee, he or she does three things.

1. *Assigns duties.* That is, the person who is delegating indicates what work the employee should do.
2. *Grants authority.* Along with responsibility for doing the work, the employee needs to have rights, such as the authority to spend money on people or materials, or to take whatever other steps are necessary to complete the new duties.
3. *Creates an obligation.* In accepting an assignment, the employee is contracting to take responsibility for finishing the job to the manager's satisfaction.

Two Kinds of Delegation

“Many managers resist delegating authority for fear a job won’t be done well—or that it will be done too well . . .”

A manager may delegate duties by describing them in terms of activities to be performed or results to be achieved. A sales manager who assigns a new salesman to call on a specified number of customers within a specific territory is delegating activities. When the same sales manager tells a salesman what volume of sales he expects the territory to produce, he is delegating in terms of results. Many managers do both.

In delegating responsibility, it is important for you to make clear what activities or results you expect from your people. The better your employees understand your expectations, the better able they will be to fulfill them.

Delegation and Participation

Delegation, the process of pushing decision making down an organization’s hierarchy, creates a participative climate. A manager who delegates, framing orders in a broad, general way, is as much a consultant as a director.

Delegation enriches the jobs of employees. It gives them the responsibility for interpretation—the sense of being their own boss and exercising control over their own environment. It promotes autonomy and self-motivation.

Many managers resist delegating authority for fear a job won’t be done well—or that it will be done too well, making the employee look more competent than the manager. Sometimes, managers do not delegate enough authority to enable the employee to effectively accomplish an assignment.

In one instance, the head of a specialty store chain was leaving on a business trip. She asked the vice president of finance to do a comparative analysis in her absence of print and electronic media expenses, and to have it on her desk when she returned. The finance man told her that to do so, he would need figures from the merchandising department, whose vice president was very wary of sharing information. He asked the boss to give him something in writing to authorize his request for the figures. The president said she would dictate a memo, but forgot in the last-minute rush before her trip.

When the finance man called merchandising, he was rebuffed, as he had feared. When he told the merchandising vice president that he had been directed by their mutual boss to do an analysis requiring merchandising’s figures, he was told, “Sorry, pal. You’re not my boss.”

Obviously, there is a risk involved in any act of delegation. After all, you can control your own actions, but you can't control the actions of other people. What if they screw up? If you are responsible for the end result, isn't it more likely to be positive if you do the job yourself?

Often, yes. But there are some risks involved in not delegating. First, for every job you do yourself, there are other jobs that may not get done, and some that may be more important. Second, if you aren't preparing your people for greater responsibility, you're probably not motivating them or working to optimize productivity.

In baseball, when the player-manager enters the game during a clutch play, he is usually taking a short-term view—trying to win one game at the expense of building future leadership. Participative techniques develop a team to take a long-term view, and can help prepare your people for future leadership.

Benefits of Participation

To the manager, participation pays the following dividends:

- *Builds self-reliance.* By making people less dependent on managers for detailed direction, participation contributes to organizational strength and stability.
- *Builds succession management.* This improves the chances for a manager to be promoted without leaving a big hole.
- *Frees the manager* to concentrate on challenges that really require his or her attention.
- *Produces better ideas,* which are more effectively implemented.
- *Produces better communication and coordination, higher creativity, and cohesion.* Psychologists researching the climate of an organization will often record the number of times employees say "we" rather than "they."

As we approach the twenty-first century, some see participation as a means to restore human values that were lost in the effort to achieve efficiency by oversimplifying work and oversupervising employees. Others see it as a necessary step for organizations that wish to survive in the face of rapidly changing environments and fierce competition.

Paradoxically, participation can increase a manager's influence. When managers subject their ideas to the scrutiny of their employees, they increase understanding and gain valuable knowledge and information from those closest to the issues. By allowing themselves to be influenced through this process, managers are likely to make better decisions that are more widely accepted by their employees. Through supportive action, the manager makes a social contract with the group; this creates a savings bank of goodwill on which he or she can later draw, when needed.

Prerequisites for Participation

Participative management techniques are not a panacea for all problems. The best times to use participative techniques are when you don't know the answer, when you want to get input, when you want commitment, and when you are managing change. The times not to use them are almost the opposite—when you do know the answer (and won't be swayed), when you don't need to know what people think, when commitment is unnecessary, or when the situation is beyond the control or competence of those you manage.

Here, drawn from the research of organizational behaviorist Keith Davis, are some more specific guidelines for deciding when to involve others, whom to involve, and to what extent to involve them.

- *There must be sufficient time for participation prior to action.* In an emergency, participative problem solving is far less appropriate than instant, autocratic direction.
- *The cost of the participation should not exceed the value of the outcome.* There is a difference between participating in the decision to design a new layout for the plant and the decision to reorder pencils for the stockroom. Employees cannot spend their time participating in the decision-making process if it keeps them from their other duties.
- *The subject must be relevant to the participant or it will be misconstrued as busywork.* Employees should be brought into decisions that affect their working lives. While a production crew should be involved in the layout and design of a new plant, it probably would not be appropriate to have them decide whether to locate it in Poughkeepsie or in Tuscaloosa.

-
- *The participant must have the ability—that is, the intelligence and the knowledge—to participate in the decision.* One would not consult computer programmers on profit and loss projections for the coming quarter. However, a programmer might be able and willing to participate in decisions about cost reduction and the planning and procurement of new systems.
 - *The participants must be able to communicate with one another.* Participative management can work only when the participants speak the same language.
 - *No party to the decision should feel that his or her position is threatened by participation.* If a worker believes his status on the job will be adversely affected, he may not participate, just as a manager may refuse to participate if he feels that his authority is threatened. Defensive participation is worse than no participation at all.

Group Decision Making

In addition to the guidelines for when to use participative management, here are some suggestions for successful group decision making in meetings. They have been adapted from the work of William Dowling and Leonard Sayles, who have helped many managers organize successful meetings.

- *Suggest participation only when the group's acceptance of a solution is at least as important as the quality of the decision.* Decisions about vacation schedules, coffee breaks, and phone coverage during lunch are of little concern to management as long as the work is done. For example, a vacation schedule is likely to displease someone, since conflicts are almost inevitable. Consequently, the manager who passes this task on to the group also passes on the headache of solving conflicts. And because the group is left with the responsibility of drawing up the schedule, the results are more likely to be accepted by all the members involved.
- *Set clear limits for discussion.* Certain aspects of any topic are reserved for management. Setting a budget ceiling for an activity, and then allowing employees to design the activities under that ceiling, is very different from asking employees how much the activity should cost.

-
- *Make the extent of desired participation clear.* Are you asking the group for suggestions on how to solve the problem, or are you asking the group to solve the problem for you? Both approaches are valid forms of participative management, but managers run the risk of unfulfilled expectations if at the outset they do not clearly define what they want. If a group of employees come up with a solution to the problem, thinking that this was their assignment, and you, as manager, thank them for their suggestion and reject it, they will feel frustrated and may refuse to go through the process again.
 - *Avoid defining the problem prematurely, or you may confuse the problem's cause with its symptoms.* One manager called a meeting to deal with the problem of bills not getting out on time. After much discussion, someone traced the problem to chronic absenteeism among key personnel. The manager then asked the group to examine the causes of absenteeism and to come up with a solution that would also solve the late billing problem.
 - *Don't ask for ideas if you've already made up your mind.* It's okay to use a group to validate a tentative decision, but don't mislead people into thinking you have an open mind when you're not willing to listen to them.

The drives that cause people to form groups in the first place—the desire for status, recognition, power, and protection from the pressures of the organization—can be satisfied by the joint action of management working with the group. Properly managed, group decision making serves to channel energy into cooperation, rather than competition, with management.

Here are some suggestions for promoting the establishment of cohesive work units.

- *Keep enemies apart.* Be careful when assigning individuals to jobs; try not to create friction.
- *Put friends together.* This often will result in a higher noise level and more talking on the job, but evidence shows that more work will get done in the process. In a study in which carpenters and bricklayers were allowed to choose job mates, those who worked with their friends outproduced those who were not permitted to choose. Similar results have been obtained with air force pilots, hospital laundry workers, and many others.

-
- *Give special attention to people who find it difficult making friends.* Use informal leaders to help integrate these people into groups. It can do much to improve their performance and keep them from eventually quitting, a result that costs the organization money in training and lost productivity.
 - *Avoid fostering competing subgroups.* Place together individuals performing similar kinds of tasks, or who are from similar backgrounds. Although competition is considered healthy, competition among subgroups in an organization often leads to tactical warfare among the groups and reduces productivity. Energies are spent in war games.

Unions and Participative Management

More than one attempt to implement participative management has been met with suspicion and resistance from organized labor. Since most of the impetus for changing and improving the way work is done comes from management rather than labor, many union leaders feel that job enrichment is just an excuse to make employees work harder.

Here are three guidelines, based on studies about gaining union support for large-scale participation programs.

1. *Limit the scope of any joint program.* Focus on quality-of-work-life issues, and avoid traditional collective-bargaining issues.
2. *Give the union a strong voice in defining the program goals.* Many unions are skeptical about employer motives, and union reps will hesitate to enter into cooperative efforts if they are not given a voice.
3. *Promote these programs as enhancements.* Make it clear that they are intended to supplement, not replace or interfere with, collective-bargaining procedures.

Union representatives naturally fear that efforts to boost productivity will end up costing jobs. Nevertheless, a recent study of participative management programs in a heavily unionized industrial organization found that unions and management can agree and work together on this most sensitive issue. Indeed, one of the great benefits of participation, when successfully implemented, is that employees and unions gain a better understanding of the economic realities.

In the study, when cutbacks and terminations were unavoidable, those who left the company went with a greater sense of dignity, and those who remained felt pride in their contributions to their operation's competitiveness.

Limitations

"An employee has a right not to participate; some people just want to be told what to do."

Although the benefits of participative management are evident, and the practice often results in improved quality, higher productivity, better morale, and lower costs, participation does have its disadvantages. With today's complex technology, specialized work roles often make it difficult for people to participate much beyond their particular job environments. Moreover, unless a clear contract is established, many individuals will expect to be consulted on every issue, even those to which they cannot contribute.

In addition, an employee has a right not to participate; some people just want to be told what to do. Because of this, managers must sometimes reach out, grab people by the throat, and drag them into this process when input for better decision making is needed. At other times, employees' desire for minimum interaction with their supervisor should be honored.

Occasionally practitioners of participative techniques can become lost in procedure and overlook philosophy. The substance of participative techniques does not automatically flow from the procedures. There is no cookbook to follow.

The extent of top management's commitment to, and involvement in, participative management is one of the most important factors in ensuring its long-term success. Obviously, an initial lack of top management support for participation can seriously diminish a program's chances for success. Even a highly successful program can stagnate if continuity is not maintained through policies set at higher levels in the organization.

Despite these limitations, participative techniques work. They are not the answer to all organizational problems, but they are useful when management wishes to improve existing systems and gain consensus and commitment—especially during periods of organizational change.

Summary

Participative management is the involvement of people in decisions about the design or implementation of systems that affect them. Participative management is not management by democracy. It is a way of increasing the quality or acceptance of decisions—often both. It should be used selectively—when you don't know the answer, when you want input, when you want commitment, and when you are managing change.

Don't use participative management when there isn't time for people to be meaningfully involved, when the cost of participation outweighs the value of participating, or when the subject is beyond the participants' competence. Never use participation for issues that threaten employees' job security or positions.

Always tell people the extent to which you are asking them to participate. Do you want them to analyze the problem? Come up with a list of possible solutions? Evaluate solutions? Recommend a preferred solution? Or actually make the decision? Above all, don't ask for ideas if you have already made up your mind about what you want to do.