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TCRP Report 8

The Quality Journey: A TQM Roadmap for Public Transportation

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Report 8

The Quality Journey: A TQM Roadmap for Public Transportation

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TRANSIT COOPERATIVE RESEARCH PROGRAM

The nation's growth and the need to meet mobility, environmental, and energy objectives place demands on public transit systems. Current systems, some of which are old and in need of upgrading, must expand service area, increase service frequency, and improve efficiency to serve these demands. Research is necessary to solve operating problems, to adapt appropriate new technologies from other industries, and to introduce innovations into the transit industry. The Transit Cooperative Research Program (TCRP) serves as one of the principal means by which the transit industry can develop innovative near-term solutions to meet demands placed on it.

The need for TCRP was originally identified in *TRB Special Report 213—Research for Public Transit: New Directions*, published in 1987 and based on a study sponsored by the Urban Mass Transportation Administration—now the Federal Transit Administration (FTA). A report by the American Public Transit Association (APTA), *Transportation 2000*, also recognized the need for local, problem-solving research. TCRP, modeled after the longstanding and successful National Cooperative Highway Research Program, undertakes research and other technical activities in response to the needs of transit service providers. The scope of TCRP includes a variety of transit research fields including planning, service configuration, equipment, facilities, operations, human resources, maintenance, policy, and administrative practices.

TCRP was established under FTA sponsorship in July 1992. Proposed by the U.S. Department of Transportation, TCRP was authorized as part of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). On May 13, 1992, a memorandum agreement outlining TCRP operating procedures was executed by the three cooperating organizations: FTA, the National Academy of Sciences, acting through the Transportation Research Board (TRB), and the Transit Development Corporation, Inc. (TDC), a nonprofit educational and research organization established by APTA. TDC is responsible for forming the independent governing board, designated as the TCRP Oversight and Project Selection (TOPS) Committee.

Research problem statements for TCRP are solicited periodically but may be submitted to TRB by anyone at any time. It is the responsibility of the TOPS Committee to formulate the research program by identifying the highest priority projects. As part of the evaluation, the TOPS Committee defines funding levels and expected products.

Once selected, each project is assigned to an expert panel, appointed by the Transportation Research Board. The panels prepare project statements (requests for proposals), select contractors, and provide technical guidance and counsel throughout the life of the project. The process for developing research problem statements and selecting research agencies has been used by TRB in managing cooperative research programs since 1962. As in other TRB activities, TCRP project panels serve voluntarily without compensation.

Because research cannot have the desired impact if products fail to reach the intended audience, special emphasis is placed on disseminating TCRP results to the intended endusers of the research: transit agencies, service providers, and suppliers. TRB provides a series of research reports, syntheses of transit practice, and other supporting material developed by TCRP research. APTA will arrange for workshops, training aids, field visits, and other activities to ensure that results are implemented by urban and rural transit industry practitioners.

The TCRP provides a forum where transit agencies can cooperatively address common operational problems. The TCRP results support and complement other ongoing transit research and training programs.

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NOTICE

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The members of the technical advisory panel selected to monitor this project and to review this report were chosen for recognized scholarly competence and with due consideration for the balance of disciplines appropriate to the project. The opinions and conclusions expressed or implied are those of the research agency that performed the research, and while they have been accepted as appropriate by the technical panel, they are not necessarily those of the Transportation Research Board, the Transit Development Corporation, the National Research Council, or the Federal Transit Administration of the U.S. Department of Transportation.

Each report is reviewed and accepted for publication by the technical panel according to procedures established and monitored by the Transportation Research Board Executive Committee and the Governing Board of the National Research Council.

Special Notice

The Transportation Research Board, the Transit Development Corporation, the National Research Council, and the Federal Transit Administration (sponsor of the Transit Cooperative Research Program) do not endorse products or manufacturers. Trade or manufacturers' names appear herein solely because they are considered essential to the clarity and completeness of the project reporting.

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FOREWORD

*By Staff
Transportation Research
Board*

The Quality Journey: A TQM Roadmap for Public Transportation is a guidebook that describes how to implement Total Quality Management (TQM) in a transit agency. The guidebook highlights significant aspects of TQM, relates TQM to public transit, and provides suggested references and a glossary on the subject. This guidebook distills the findings of the research project into "how to" tips and examples that focus on the three phases of TQM implementation: the foundation phase, the momentum phase, and the commitment phase. This guidebook will be of interest to managers, labor leaders, and members of governing boards who have an interest in applying the principles of TQM to public transportation.

The intent of this research was to identify, evaluate, and recommend applications of potentially successful methods of implementing TQM in public transportation to increase ridership through improved customer satisfaction, to increase productivity, and to reduce cost. The research was undertaken because there was no significant and systematic effort within the transit industry to evaluate applications of TQM, to disseminate information regarding successful strategies, and to develop a body of practical resources specifically designed for transit.

Under TCRP Project F-3, MacDorman & Associates, Inc. thoroughly researched the TQM literature, and provided summaries of the essential principles of TQM, including the basic tenets of TQM as developed by proponents such as W. Edwards Deming, Joseph Juran, Kaoru Ishikawa, Armand Feigenbaum, and Philip Crosby. It contains details of four pilot TQM initiatives that were supported and observed during the project, the findings of a survey of transportation industry chief executive officers, and the findings of a survey of transit agencies that have undertaken quality initiatives and efforts. Case studies of Baldrige Award winners outside of the public transit field are provided, as well as case studies of TQM efforts in the transit industry: Madison, Wisconsin, METRO; Montgomery County, Maryland, Ride-On; and Port Authority of Allegheny County, Pennsylvania.

Over the course of a year, the research team worked with four transit agencies that had begun TQM initiatives of some type and expressed an interest in participating in this TCRP project: Chicago Transit Authority, Pee Dee Regional Transportation Authority, Southwest Ohio Regional Transit Authority, and Spokane Transit Authority. The four agencies were selected by the project panel from 30 transit agencies that expressed interest and satisfied the selection criteria. These sites represent transit agencies of various sizes in different regions of the United States. The research team provided technical assistance and guidance in how to avoid pitfalls that had sidetracked earlier TQM efforts elsewhere, and then conducted before and after employee surveys and management interviews to determine if TQM was having a positive effect. Although one year is not enough time to dramatically change an organization, there is no question that positive changes occurred at the pilot transit agencies, particularly in improved labor-management communication.

and the feeling that employees can have an effect on their work environment and on the quality of transit service that their agency delivers.

The TQM guidebook is supplemented by an unpublished agency report prepared under the project entitled, *Total Quality Management in Public Transportation*. A video entitled, *Four Views from the Road: Public Transportation's Quality Journey*, was also prepared. The video features drivers, mechanics, managers, and labor representatives describing the positive changes in their transit organizations as a result of applying TQM principles. A pocket-sized brochure is available entitled, *The Quality Journey: An Overview of TQM in Public Transportation*. The brochure features quotations from some of the same people featured in the video. A limited number of final reports and brochures are available on a loan basis from TCRP. The video is available from the American Public Transit Association. Inquiries regarding the video should be addressed to:

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PREFACE

As we near the end of the 20th century, many of our traditional business practices seem increasingly less effective. They haven't kept pace with changing demographic patterns and employee expectations, shifting societal demands, increasing competition coupled with increasing fiscal constraints, and the need to adopt new technologies. To meet these broad challenges, growing numbers of American businesses have adopted the principles of Total Quality Management (TQM) to improve the responsiveness of their products and services. For many, following these principles resulted in changes to the core of the business that, in turn, increased customer and employee satisfaction, reduced costs, and improved productivity.

The transit industry faces many of the same challenges as other 20th-century businesses. The principles of TQM appear to hold promise as a way to improve transit service, increase ridership, and fulfill the transit industry's broad social mission. However, only a few agencies have introduced innovative TQM-based practices. There is no significant and systematic effort within the industry to evaluate applications of TQM, to disseminate information regarding successful strategies, and to develop a body of practical resources specifically designed for transit. Transit agencies need guidance on and methods for implementing TQM in the public transportation environment.

Research Background

This document was prepared under Transit Cooperative Research Program (TCRP) Project F-3, "Total Quality Management in Public Transportation." The objectives of the project were to identify, evaluate, and recommend applications of potentially successful methods of implementing TQM in public transportation. We particularly looked for methods that held promise for increasing ridership, improving customer satisfaction, increasing productivity, and reducing costs.

To meet these objectives, the project (1) identified the essential TQM principles, concepts, and values in the context of the transit industry; (2) reviewed relevant TQM applications and practices from inside and outside the transit industry; (3) designed, implemented, and evaluated the initiation of the TQM process at four transit system's sites; (4) reported on the effectiveness of all identified practices and processes; and (5) recommended follow-up activities. All project activities are reported in the Final Research Report.

Pilot Transit Systems

Four transit systems participated in TQM as pilot sites:

- Chicago Transit Authority (CTA)—one of the largest rail and bus transit systems in the United States.
- Pee Dee Regional Transportation Authority (PDRTA)—a multicounty, mostly rural, southeastern U.S. system, which largely provides paratransit services.

- Southwest Ohio Regional Transit Authority (SORTA)—a mid- to large-sized bus service in the midwest.
- Spokane Transit Authority (STA)—a mid-sized, West Coast bus and paratransit system.

The four shared an interest in TQM but were at different stages in its implementation, ranging from no prior involvement to about 2 years of experimentation with employee participation and other TQM principles.

Sources of TQM Information

This guidebook cites numerous sources of information that will be vital in learning more about TQM. In addition to this guidebook, other products produced by this TCRP project include:

- *Four Views from the Road: Public Transportation's Quality Journey* a (23-minute video of TQM described by transit's people).
- "Total Quality Management in Public Transportation," Final Research Report, Project F-3, July 20, 1995 (an unpublished report of all project research findings and results).
- *The Quality Journey: An Overview of TQM in Public Transportation* (a pocket-sized brochure).
- "Total Quality Management in Public Transportation," *TCRP Research Results Digest 3*, October 1994 (an abbreviated report of Phase I research findings and results).

See Foreword for information on obtaining these products.

HOW TO USE THIS GUIDEBOOK

This guidebook can be used like a roadmap to help a transit organization plan its quality journey. It provides a high-level picture of the terrain, a few specific examples from the four pilot transit systems, a variety of tips, and additional resources keyed to stages of the journey. Remember, this view of the terrain is from 30,000 feet above the ground. It will help keep you oriented in the right direction, but you'll need more support from the suggested resources to complete various activities. We've included examples to inspire your creativity. They are not prescriptions, nor are they the only way to approach these applications. Ultimately, each organization chooses its own path to Total Quality Management (TQM).

We recommend that you first read, or at least skim, the entire guidebook to gain an overall perspective of the TQM journey. Then do a more focused reading of the phase that's most relevant to your organization. For most transit organizations, that will be the Foundation Phase. As your work progresses, review the guidebook periodically to find the most relevant examples, tips, and resources. Share it with others in your organization as they embark on various TQM activities. Each of the chapters is briefly described below.

Chapter 1—An Introduction to Total Quality Management (TQM). This chapter outlines the guiding principles that underlie the specific practices in TQM. It also provides an overview of the three progressive but overlapping phases that characterize most quality journeys.

Chapters 2, 3, and 4 are your roadmap. Each presents one of the three phases as well as its supporting activities. Each phase builds capabilities and knowledge, within your organization, that will be called on in the following phases. Skipping immediately to the Commitment Phase may set your organization up for failure. We recommend that you follow these phases in their broad outlines. Feel free, however, to experiment with actions from later phases in earlier ones, if those actions seem to fit your needs.

Chapter 2—Foundation Phase. The key to this phase is bringing senior management and labor together to learn about TQM and to jointly set a course of action. This solid

base of cooperation establishes momentum for TQM. Without it, an organization will flounder.

Chapter 3—Momentum Phase. Through the activities in this phase, your organization will create living, concrete, and specific examples of the generic TQM values of customer focus, employee involvement, continuous improvement, and leadership. Through these examples, the people in your organization will begin to understand TQM and believe that it can work for them. These beliefs build cultural momentum and that will help ensure the support for TQM that is a prerequisite for a successful Commitment Phase.

Chapter 4—Commitment Phase. Activities in this phase help change an organization's formal structures, systems, and accountabilities. For example, an organization might change the way it maintains vehicles by implementing self-managed teams of mechanics responsible for a particular set of vehicles. Activities in this phase will provide the greatest payoff for an organization in terms of increased ridership, improved productivity, and reduced costs. These activities will also help ensure ongoing organizational improvement. Remember, however, that these changes are potentially deep and broad in their reach. To make them successful, an organization needs a strong base of labor-management cooperation and cultural momentum built in the earlier two phases.

Chapter 5—Leadership: The TQM Driver. This chapter outlines key leadership responsibilities for each phase and discusses leadership development.

Appendix A—Quality Resources. This section provides a listing of suggested books and other resources to assist with your quality journey. Recommended books keyed to specific roadmap actions also appear at the end of each activity description.

Appendix B—Quality Glossary. This section will help you understand some of the terms used in the roadmap.

Good luck on your journey.

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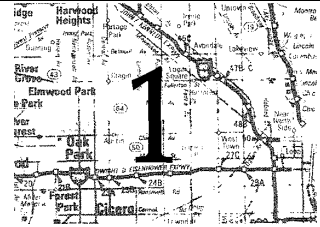
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Carol Solomon was the golden pen that made ideas in the original draft come to life as well as made this text understandable. Michael Oates documented many of the excellent quotes used in this guidebook while producing the video *Four Views from the Road: Public Transportation's Quality Journey*. Sharon Ayre was the creative force behind the final presentation of this document. Eileen Delaney and her staff spent many diligent hours ensuring the guidebook's final quality met their high standards.

Most of all, thanks to the many people of the Chicago Transit Authority, the Pee Dee Regional Transportation Authority, the Southwest Ohio Regional Transit Authority, and the Spokane Transit Authority for their involvement in this project, the excellent examples they contributed to this guidebook, and the leadership they demonstrated throughout their quality journey to date. Special thanks to Nancy Core-Edwards, Sallie Hilvers, William Johnson, Denise Marchioro, and Thomas Reynolds for their energy and devotion in fulfilling the critical and creative quality facilitator role at their respective transit agencies.

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AN INTRODUCTION TO TOTAL QUALITY MANAGEMENT (TQM)

"There is no instant pudding"

— W. Edwards Deming

"It requires a lot of work along the way"

— George Kettenton, President,
ATU Local 1015 & Coach Operator, STA

WHAT IS TQM?

TQM stands for Total Quality Management, one of many approaches designed to reform American business and commerce. You may have heard or used terms like Visioning, Shared Interests, Reengineering, or Reinventing. These approaches and activities are also part of this broad reform movement. Today, change is sweeping through American business and commerce and — yes — even through the public transportation industry! What the change is called is not as important as what the change is about. The TQM change is about how organizations perform work, satisfy customers, get better at what they do, and — perhaps most important of all — how they inspire, reward, and retain the people who make them tick. As you learn about TQM through this guidebook, you'll probably find that many of its components are familiar. What's special about TQM is how it embraces and combines many existing management and organizational philosophies.

TQM is a comprehensive and long-term transformational process. As a result of this process, an organization moves from a traditional, outdated mode of operating to a newer, more progressive way of running the enterprise (see the following table). Along the way, the organization learns how to change, improve, and evolve continuously. It does this by focusing on people first — in particular, on passengers, employees, and people in the community. Systems, procedures, structure, measures, and responsibilities are transformed to support the employee's desire to serve the passenger and the community.

Organizational Characteristics

	OUTMODED CHARACTERISTICS	FUTURE-ORIENTED CHARACTERISTICS
The Organization	<ul style="list-style-type: none"> ▪ Focused on the boss ▪ Follow the rules ▪ Closed ▪ Oriented to organization chart ▪ Waiting for orders ▪ Rigid 	<ul style="list-style-type: none"> ▪ Focused on the customer ▪ Live the values ▪ Open ▪ Oriented to processes that create value ▪ Taking responsibility ▪ Evolving
Senior Management Role	<ul style="list-style-type: none"> ▪ Tactical focus ▪ Manage conflict with unions ▪ Emphasis on tasks 	<ul style="list-style-type: none"> ▪ Strategic focus ▪ Partner with unions on common interests ▪ Emphasis on people and culture
Mid-Management and Supervisor Role	<ul style="list-style-type: none"> ▪ Manage your own department or group ▪ Enforce the rules ▪ Maintain performance 	<ul style="list-style-type: none"> ▪ Team-manage the work of groups as processes ▪ Coach, mentor, and support ▪ Implement improvements
Front-Line Associate Role	<ul style="list-style-type: none"> ▪ Do what you are told 	<ul style="list-style-type: none"> ▪ Manage own work ▪ Suggest and make improvements

TQM PRINCIPLES

"It's an ongoing process...you need to improve and do everything you can to bring about customer satisfaction"

— Dianne Todd,
President of the Drivers' Council
and Senior Driver, PDRTA

You can't implement TQM by rigidly following a recipe. Your organization and situation will have unique elements, and you must modify existing approaches or develop new ones to fit your needs. The following seven principles will help you in this:

- **Put Customers First.** "Putting customers first" is the basis for all quality management. An organization that practices TQM believes that service and product quality should meet, and hopefully exceed, customers' expectations. Each person and every work process in that organization has a clear role under this goal. The success of public transportation depends on attracting and retaining customers to use and support its services.
- **Manage and Improve Processes.** Within the quality movement, the word "process" refers to how work activities are performed. By improving processes, organizations can raise the quality of their services, products, and delivery. They can also increase productivity, improve operational efficiency, and eliminate waste. Process management involves all activities required to provide a product or service, including support activities such as maintenance, service planning, and training.

-
- **Manage by Fact.** An organization that practices TQM relies on facts and data to support its decisions and operations. For example, it may use market research to confirm ideas about customers' expectations. It may document its work processes to set a baseline for improving them. It will measure itself in areas vital to customers, for example, on-time performance. Measurements serve the dual role of 1) helping managers set the direction for operational and strategic planning and 2) providing feedback on how well and how quickly organizational goals and objectives are being achieved.
 - **Cultivate Organizational Learning.** Continuous improvement in customer satisfaction and operational performance requires commitment to learning. Without learning, organizations and their members repeat old behaviors and practices. Solving problems, changing procedures to meet customers' changing needs, understanding the importance of satisfying customers, and designing or reengineering processes all require learning that work can be performed in different, better ways.
 - **Train, Empower, and Recognize Employees.** Employees are a transit system's most important asset. Their value must be protected and enhanced. This means training employees to identify and solve problems that cause customer dissatisfaction, empowering employees to take actions that satisfy customers, and recognizing employees for efforts and contributions that improve performance.
 - **Improve Labor-Management Teamwork.** A continuous and lasting TQM initiative requires the involvement of employees. In organizations with unions and represented employees, this means union officials must be involved in quality policy decision-making. Employee teams must have both represented and non-represented members in order to solve problems and increase customer satisfaction.
 - **Lead the Change in Organizational Culture.** Leadership and organizational culture are critical to the success of TQM. Total Quality Management represents a long-term commitment. It is not a fad or a quick fix but a fundamental change in the workplace. Creating a change of this kind requires leadership at all levels and takes years of sustained effort.

Test your ideas for implementation against these principles. Good ideas will be good reflectors of one or more principles.

TQM PRACTICES: INTRODUCTION TO THE ROADMAP

"The major failing of any quality initiative is passion without system or system without passion, you must have both"

— Tom Peters

Once leaders in a traditional organization are convinced of TQM's principles and desired outcomes, the question becomes, "How do we get started?" The roadmap presented in this guidebook is designed to help organizations get started and continue with the transition to full TQM. In our view, the most successful transitions to full TQM occur in three progressive phases. Each phase builds capabilities and knowledge, within an organization, that will support the following phases. Skipping immediately to the last phase may set an organization up for failure. We recommend that you follow these three phases in their broad outline. Feel free, however, to experiment with actions from later phases in earlier ones, if those actions seem to fit your needs. Ultimately, you will choose your own path of transformation. The following table provides an overview of the phases and associated actions. Use this guidebook and recommended readings for more detail on specific actions.

Getting started with TQM may go more slowly than you might wish. That's not unusual and not a sign that your organization is not "right" for TQM. Remember, a large part of an organization is its behavior patterns or habits. Organizational habits, like personal ones, are difficult to change, especially when everyone is trying just to keep up with the ever-increasing demands of getting things done.

TQM Roadmap Summary

TQM PHASE	PURPOSE	ACTIONS
Foundation	The key to this phase is bringing senior management and labor together to learn about TQM and to jointly set a course of action. This solid base of cooperation establishes momentum for TQM. Without it, an organization will flounder.	<ul style="list-style-type: none"> ▪ Prepare for TQM ▪ Form the leadership team ▪ Discuss TQM goals, build awareness, and enlist support ▪ Clarify organizational vision, mission, goals, and values ▪ Identify customer satisfaction perceptions, priorities, and problems ▪ Sponsor and launch improvement projects
Momentum	Through the activities in this phase, your organization will create living examples of the generic TQM values of customer focus, employee involvement, continuous improvement, and leadership. Through these examples, the people in your organization will begin to understand TQM and believe that it can work for them. This creates a cultural momentum.	<ul style="list-style-type: none"> ▪ Clarify leadership expectations ▪ Renew an emphasis on employee training and development ▪ Recognize, reward, and celebrate contribution ▪ Identify and initiate high-priority improvements ▪ Revitalize the "suggestion system" ▪ Evaluate and revise policies and practices to eliminate bureaucracy and empower employees ▪ Evaluate and improve the quality process
Commitment	Activities in this phase help change the organization's formal structures, systems, and accountabilities. This phase provides the greatest payoff in increased ridership, improved productivity, and reduced costs and also helps ensure ongoing organizational improvement.	<ul style="list-style-type: none"> ▪ Establish process management ▪ Reengineer work processes and job responsibilities ▪ Implement supplier management and partnerships ▪ Evaluate and improve the measurement system ▪ Evaluate and improve the management performance appraisal system ▪ Institute a system of "organized abandonment"

As you move into the Foundation Phase, attend to the following do's and don'ts for a good start.

Do's

- ✓ Involve union leadership from the beginning.
- ✓ Form a leadership team to provide direction and formulate a TQM action plan.
- ✓ Create and staff a quality manager position to ensure the expertise and support you'll need.
- ✓ Enlist support from middle management early.
- ✓ Work with those who want to lead the change.
- ✓ Create examples of success.
- ✓ Be patient as well as persistent.

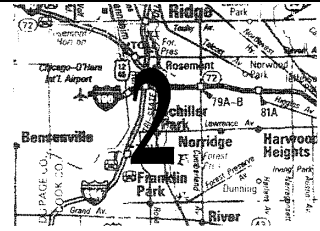
Don'ts

- ✗ Abdicate leadership responsibility.
- ✗ Discuss wages, work hours, or working conditions in quality initiative meetings or deliberations — these issues are reserved, by law, for unions and collective bargaining.
- ✗ Dwell on internal problems like improving morale or reducing absenteeism — instead, DO focus on the customer.
- ✗ Promise what TQM can ultimately deliver as if you'll have it next week — the TQM process must be capable of delivering on your enthusiasm.
- ✗ Handpick members of Quality Improvement Teams (QITs) — DO support open, voluntary employee involvement with public criteria for team participation.
- ✗ Get discouraged — some quality initiatives will fail — DO create an environment of experimentation.

To return to the quote from Tom Peters that opened this chapter, it's up to the leadership to supply the "passion" for quality. The TQM journey will demand your enthusiasm, resolve, and sense of urgency to make progress — in short, your "passion." The TQM process, the roadmap outlined in this guidebook, and your TQM action plan will provide the "system" that channels this energy for positive change.

The following chapters outline the TQM phases and their suggested actions in more detail and include examples provided by TQM pilot studies at the Chicago Transit Authority (CTA), the Southwest Ohio Regional Transit Authority (SORTA), the Pee Dee Regional Transportation Authority (PDRTA), and the Spokane Transit Authority (STA). Use the examples to inspire your creativity. They are not prescriptions, nor are they the only way to approach these applications. When you need more detail on how to do an activity, consult the recommended resources.

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FOUNDATION PHASE

"A journey of one thousand miles begins with a single step"

— Lao Tsu

The key to this phase is bringing senior management and labor together to learn about TQM and to set jointly a course of action. This solid base of cooperation establishes momentum for TQM. Without it, an organization will flounder. Each of the activities below, which help build the foundation for TQM, is discussed in more detail in this section:

- Preparing for TQM
- Forming the leadership team
- Discussing TQM goals, building awareness, and enlisting support
- Clarifying organizational vision, mission, goals, and values
- Identifying customer satisfaction perceptions, priorities, and problems
- Sponsoring and launching improvement projects

The first two activities, preparing for TQM and forming the leadership team, should be done before the others. The remaining activities can be done simultaneously or in any order that suits your organization.

PREPARE FOR TQM

Before convening the leadership team, senior leaders (both union and management) need a basic grounding in and knowledge of TQM. To prepare themselves to lead the TQM initiative, senior leaders should:

- Learn about quality — Review the *Four Views From the Road* video, this guidebook, suggested references, and this project's final report, "Total Quality Management in Public Transportation" (see the Preface for ordering information).
- Promote quality awareness with their colleagues in management, labor, and the governing board.
- Enlist quality expertise and support — Create and staff a quality manager position that reports directly to the Chief Executive Officer (CEO). Ideally, this individual will provide both quality expertise and staff support for the TQM initiative. You'll need expertise to stay clear of pitfalls early in your journey as well as to facilitate your TQM knowledge and leadership. You'll need staff support to help manage the details of the TQM process, provide behind-the-scenes glue, and be a resource to teams embarking on various quality initiatives. If, however, the person you hire does not have at least three years of TQM experience, enlist the services of an experienced TQM consultant to provide quality expertise.



The Quality Manager is typically a middle manager who has the following characteristics:

- A broad knowledge of the transit business
- A lot of energy and initiative
- Excellent skills in dealing with people and facilitating meetings
- Either TQM expertise OR is a quick study and willing to learn from others

In addition, a Quality Manager should be well respected by senior managers and front-line employees and known for thinking and acting in alignment with the seven TQM principles.

RESOURCES



- Deming, W.E., *Out of the Crisis*, 1982.
- Imai, M., *Kaizen: The Key to Japan's Competitive Success*, 1986.
- Juran, J.M., *Juran on Leadership for Quality: An Executive Handbook*, 1989.
- Peters, T.J., *Thriving on Chaos: Handbook for a Management Revolution*, 1987.
- *Four Views From the Road: Public Transportation's Quality Journey* (a 23-minute video of TQM described by transit's people)
- *The Quality Journey: An Overview of TQM in Public Transportation* (a pocket-sized brochure)
- "Total Quality Management in Public Transportation," Final Research Report, Project F-3, July 20, 1995 (a full report of all project research findings and results)
- "Total Quality Management in Public Transportation," *TCRP Research Results Digest 3*, October 1994 (an abbreviated report of Phase I research findings and results).

FORM THE LEADERSHIP TEAM

*"Labor and management are both participants
and that makes a big, big difference"*

— Jerry Williams, President, ATU Local 308

Without direction and leadership, TQM will go nowhere fast. Don't make one of these two common, and costly, mistakes!

- × When union employees are present, don't exclude union leadership from the leadership team.
- × Don't delegate leadership of the TQM effort to anyone else, not even to the Quality Manager.

Form a leadership team that includes senior management and union leadership and make sure that the team knows its charter. In a non-union environment, include front-line employees with leadership qualities. This leadership team must provide direction, leadership, and continuity for the TQM process. At the outset, the team members will need to learn more about TQM, both as individuals and as a team. Then, as a team, they'll establish goals for TQM in their organization, create a TQM action plan to accomplish the goals, and enlist support for the overall TQM process.

Although the team may think its work is done after it's created an action plan, in fact, its work is only beginning. To put the plan into action, each of the TQM initiatives needs a sponsor, and the sponsor should be a member of the leadership team. The role of the sponsor is that of a

mentor — ensuring that employees who carry out the initiative can succeed and feel ownership for what they did and its outcome.

As architects of the quality journey, the leadership team will have to adapt and refine the TQM action plan as time goes on. The leadership team must also ensure that employees are involved in developing the details of the action plan. Involvement normally begins with middle managers, who review the initial plan and provide input. After that, to get the input and involvement of supervisors, front-line employees, and others, the leadership team can use focus groups, staff meetings, briefing sessions, and other means of two-way communication. The key here is "two-way communication." The best action plans reflect the insights and ideas of many employees from all parts of the organization.

The first meeting of the leadership team typically marks the official beginning of an organization's quality journey. In this meeting, senior management and senior labor convene for one to two days to create a common language and develop the initial TQM action plan. Although the organization's senior leadership may not be a true team going into the first meeting, it should be a team coming out of it — willing to give TQM a go — willing to learn more about TQM as a group, and what it means to be a leadership team.

Objectives for a leadership teams launch meeting typically include:

- Learning more about quality principles and practices
- Developing TQM goals
- Developing a TQM action plan of the steps that will begin to achieve these goals (using this roadmap)
- Scheduling regular leadership team meetings



The biggest pitfall early in the TQM journey is for management to go it alone without involving senior labor officials. In some cases, a session on shared interests (as described for CTA in the third example below) may be needed to pave the way for TQM.

EXAMPLE Agenda for a leadership team launch meeting (1-2 days)

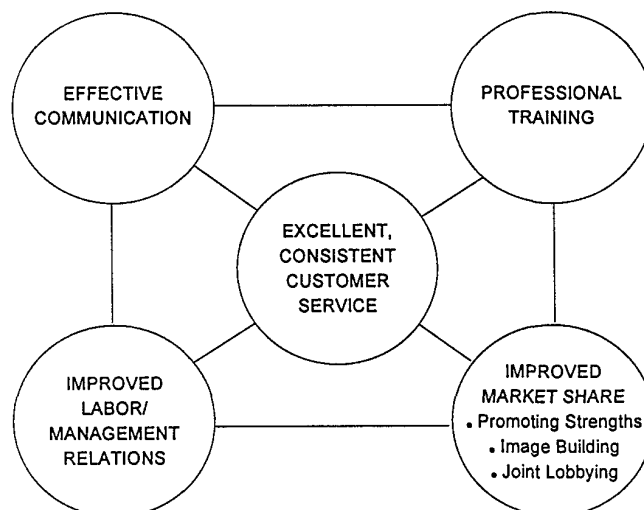
- Discuss expectations, today's objectives, agenda, ground rules
- Do a warm-up activity
- View and discuss the *Four Views From the Road* video
- Team Discussion: "What Does Quality Mean to You?"
- Hear about TQM principles
- Hear from guest speakers relating their experiences with TQM
- Review highlights of TQM roadmap using this guidebook
- Team Activity: "Create Our Quality Vision — TQM Goals"
- Team Activity: "Create Our High-Level Action Plan"
- Hear about roles of leadership and the leadership team
- Discuss next steps, leadership team meeting schedule
- Evaluate the meeting

EXAMPLE Action plan for TQM from PDRTA

- Create a Quality Council – Responsibilities will include selecting, supporting, and overseeing QITs and task forces, which implement TQM initiatives. The Council will hold regular meetings and collect and report findings to the entire organization.
- Communicate Senior Management's Commitment – Commitment should be reinforced at every possible occasion, including through actions and written memos.
- Develop Mission, Vision, and Values Statements – The Quality Council will lead this effort, but employee involvement is also essential for ownership.
- Conduct Customer Satisfaction Research – Use customer focus groups, on-board interviews and surveys, and front-line employee knowledge of customers.
- Solicit Improvement Suggestions From Employees – Use focus groups and suggestion systems to gain information from employees regarding customer satisfaction, performance improvements, and ideas about the mission, vision, and values statements.
- Develop a List of High-Priority Projects and Select QITs – The Quality Council will rank improvement proposals on the basis of importance to customer and organizational priorities. QITs will be established to carry out improvements. The teams will be afforded time and supported by the Quality Council.
- Have QITs Conduct Quality Improvement Projects – QITs will receive training on the quality process and tools, will clarify their problems/issues with the Quality Council, analyze root causes of the problems, and recommend solutions to the Quality Council.
- Develop and Conduct a Series of TQM Orientation Sessions – A TQM orientation, which includes TQM principles, mission, vision, values, goals, and this quality action plan, will be given to all employees.
- Develop Ongoing Customer Complaint and Employee Suggestion System – Data can be obtained through a complaint form or card, suggestion box, or other mechanisms. Complaints and suggestions will be discussed regularly at improvement meetings.
- Integrate Discussion of Survey, Suggestion, and Complaint Data into Regular Performance Meetings.

EXAMPLE Session on shared interests in conjunction with the CTA leadership team launch: Goal was to recognize shared interests between union leadership and senior management.

Shared Interests of Union and Management



CTA held a union-management retreat attended by 14 union leaders (representing the Amalgamated Transit Union [ATU] Locals 241 and 308 and the Metal Trades) and 12 senior managers. The retreat included sessions on customer problems, separate and shared interests, and developing a vision statement. One output was the preceding diagram, which represents the key shared interests of union and management. This meeting spawned four subcommittees whose membership included leadership and representatives from a larger population of employee leaders at CTA. These subcommittees provided follow-through in detailing how the shared interests converge to support delivery of excellent, consistent customer service.



Managing Meetings – As a leadership team, strive to create a model of meeting effectiveness and efficiency by example. If you succeed in improving your own meetings, eventually, the entire organization will learn how to hold effective meetings. A little discipline will go a long way. Establish meeting ground rules and use other meeting management tools. Examples of ground rules for meetings:

- Ensure that all meetings have objectives, an agenda, and an ending time.
- Ensure that all meetings and breaks start and end on time.
- Participate, don't dominate.
- Hear from each person.
- Don't pull rank.
- Don't rehash old issues without new facts.
- Don't allow personal attacks.
- Clarify action items, due dates, and ownership.
- Agree to thumbs-up or thumbs-sideways consensus on decisions — Thumbs-up means "I agree"; thumbs-down means "I disagree," i.e., "You have not got my vote"; and thumbs-sideways means "I can support the decision but have the following reservations for improvement," i.e., this is not a show-stopper.

Additional Meeting Management Tips:

- Enforce ground rules by having violators pay a small penalty.
- Have the group responsible for calling a violation as soon as one occurs, and make sure the violator pays the penalty immediately.
- Avoid taking off on a tangent by using a "parking lot" for issues of concern that are not central to the day's work. Write those issues down and post them, then revisit them before the meeting concludes.
- Establish roles for a facilitator and a scribe. Designate these responsibilities at the outset of the meeting. The facilitator attends to team dynamics, time, and anything else about the way the group works. The scribe ensures important issues and action items are recorded and validated by the group.
- Get more done by having subgroups complete tasks outside the full team meeting.
- Get rid of the chairs! When you're all standing, you'll be surprised at how efficient your meeting can become.

RESOURCES

- AT&T Quality Library, *Leading the Quality Initiative*, Select Code 500-441, 1990.
- Brassard, M. and Ritter, D., *The Memory Jogger II*, GOAL/QPC, 1994.
- Cohen-Rosenthal, E., and Burton, C.E., *Mutual Gains: A Guide to Union-Management Cooperation*, 1993.



DISCUSS TQM GOALS, BUILD AWARENESS, & ENLIST SUPPORT

"It takes everyone in the company to make the company run. It can't be just management, it can't be just worker, it can't be just union. It's got to be everyone"

— Lettie Robinson,
Executive Board Member, ATU Local 241

To enlist support for the TQM goals and action plan, the leadership team must communicate them and build awareness. This is an opportunity to set a new standard for effective internal communications. Don't blow it with a business-as-usual memo. The most effective communication is through frank, open, face-to-face discussions. Just get out there and listen.

It's also important to use a wide variety of means to communicate. Try focus groups, for example. Involve managers, supervisors, and union officials in getting the dialogue going — and keep cycling back for updates and continued dialogue. If you also use this opportunity to encourage employee suggestions and put them into action, you'll lead by doing. Actions like these will eventually be every supervisor's responsibility. As the TQM journey proceeds, continue to communicate with a wide variety of means. Try team storyboards, scoreboards, one page TQM updates, etc., to let people know what is happening and to generate dialogue.



Reach out widely to enlist a broad base of support early in the TQM process. Involve as many key managers, supervisors, and union leaders as you can in shaping the TQM goals and action plan. Encourage them to participate in early initiatives and projects, and recognize their leadership when they come through for you.

EXAMPLE Enlisting support at STA

Leadership Team Quality Vision: *"A commitment to exceed customer expectations by empowering employees and continuous improvement"*

The leadership team used their draft of a quality vision to communicate their intent and to solicit feedback from employees. They presented their vision informally at staff meetings and included it as part of more formal briefing sessions to first-line supervisors, middle managers, and union stewards. During each of the briefing sessions, in addition to the quality vision, participants learned about the principles of TQM as well as the leadership team's initial action plan. Participants' ideas for possible quality improvements were solicited via "brainstorming," a creative thinking technique for groups.

At each briefing session, volunteers were solicited to work with members of the leadership team on one of three subcommittees. One subcommittee selected improvement projects to be addressed by QITs. Another subcommittee explored the best ways to receive customer input and learn about what customers expect, how they perceive the organization, and how important various aspects of the service were to them. The third committee was responsible for addressing the best ways to receive employee input concerning quality issues and initiatives.

CLARIFY ORGANIZATIONAL VISION, MISSION, GOALS, & VALUES

"You have to be very careful if you don't know where you are going because you might not get there"

— Yogi Berra

Clarifying organizational vision, mission, goals, and values is an early priority of the leadership team. All too easily this can degenerate into a meaningless exercise. It should be a visceral, dynamic, ongoing conversation with the organization and its stakeholders.

If you did a thorough job in creating TQM goals, you should be on your way to answering the following questions:

- "What will be our role in the future?" This is your vision.
- "What is our purpose now?" This is your mission.
- "What will we accomplish?" These are your goals.
- "What do we believe and how will we act?" These are your values.

This is one of your first opportunities to integrate the quality process into the fabric of the organization. Your TQM goals will likely encompass performance as well as culture in a general and inspiring way. Use these as your springboard to clarify organizational direction and desired values.

The organizational vision has to do with aspirations for the future. Will our mission be the same, i.e., Will we have the same purpose? Will we serve the same types of customers, in the same way? Will our relationship with the community be the same? Will we be in the business of running this system or providing for the mobility of people? Developing common answers to questions of this kind requires broad, ongoing dialogue.

Many transit agencies have a documented mission statement and accompanying goals. At a minimum, these are published with the annual report or in a planning document. Ideally, everyone should be able to describe how he or she contributes to key organizational goals and to the mission of the agency. Test this by asking employees what the mission and goals mean to them. If you get vague answers, you know you have lots of work ahead of you.

Goals should be measurable, so that an organization beginning TQM can put a results-oriented "stake in the ground" and measure progress from there. The exercise of stating goals will help clarify the mission and vision. Generally speaking, long-term goals are at least three years out. Link them to shorter-term, one-year targets. An organization working toward TQM should set goals around customer satisfaction, employee satisfaction, and financial performance.

Clarifying values is one of the most difficult areas for traditional organizations, yet it is one of the most important when moving forward with TQM. Start by defining a set of common values. The values should be consistent with quality principles and may include items such as customer focus, respect for the individual, integrity, teamwork, and innovation.

Many organizations post a list of their values, but reinforcing and living the values distinguishes organizations that are truly on the TQM journey. It's up to the leaders to make this real. They can do that, first, by discussing routinely how their own behavior reflects the values or falls short. Then, these discussions must bear fruit — leaders must improve their behavior, so that it

does become a better reflection of the desired values. Once leaders truly live the values in their own behavior, they will find they want to change policies, rules, and practices that are barriers to employees' living the values as well.

When leaders are ready to move beyond their personal behavior in living the values, they must plan for reinforcing the values in the organization. It's best to view this, too, as a long-term learning process and to start informally. Have work groups "check in" periodically to evaluate what actions and behaviors have been consistent and inconsistent with the common values. For example, include this as a standing agenda item at leadership team meetings. Then move to more formal methods.

Many organizations have implemented a formal feedback system for managers, in which each manager's subordinates, colleagues, and superiors periodically provide anonymous feedback on how well his or her behaviors and management style conform to the common values. Often called "360-degree feedback," this system can be a powerful tool for helping an organization learn to live the values. After extensive experience with a system like this, an organization can move on to including an evaluation of "living the values" as part of the formal performance appraisal. Throughout the entire learning process, be sure to use positive reinforcement, both informal and formal, to thank employees for "walking the talk."

EXAMPLE Vision, mission, and values at PDRTA

Vision Statement — *"PDRTA will be the nation's best rural paratransit provider, offering efficient on-demand and scheduled services to Pee Dee citizens. We will increase our ridership and public responsibility by experiencing cost-efficiency gains due to understanding, focusing on, and delivering the specific services that our customers and passengers expect; partnering with our suppliers and customers; improving technical capabilities; and training our employees. PDRTA's service will be viewed as a public necessity by the community that we serve."*

Mission Statement — *"PDRTA is a nonprofit paratransit authority that provides safe and quality services to the citizens of the Pee Dee Region. Our mission is to meet the transportation and special access needs of our passengers and to provide cost-efficient, on-time services to the agencies, companies, and governments who fund or purchase our services. In the near term, we will improve our level of performance to increase customer and passenger satisfaction with our existing services. Our employees and their satisfaction are key to the success of our mission. They must be trained to provide these services and to focus on customers."*

Values —

- *Committed to the community*
- *Focused on passengers' individual needs*
- *Striving for organization and cultural improvements*

EXAMPLE Process for clarifying a vision at SORTA

SORTA, locally known as Metro, has been changing its organizational culture during the past three years through an initiative called Vision at Work. One-day seminars have been held with numerous work groups throughout Metro. The seminar engages the group in creating its own vision statement that articulates the group's priorities and underscores its values. Over time, the vision statements of all groups were combined and synthesized into an overall Metro vision organized according to four organizational pillars.

METRO VISION

- **We make Cincinnati a great place to live** — *Metro improves the overall quality of life in Greater Cincinnati. Our actions assure that there is an ongoing, vital role for transit in our community. We are transportation pioneers, making decisions based on the community's long-range transportation needs. We are widely recognized for our work and have strong community support and secure regional funding.*
- **Customers are why we're here** — *We are totally dedicated to exceeding our customers' expectations. We know who our customers are and take them where they want to go. All of our customers are completely satisfied. Ridership increases steadily as we actively seek new customers. Metro is everyone's first choice in transportation.*
- **Outstanding service is our commitment** — *Metro is the world's leader in providing transit services. We consistently exceed all standards of excellence and continuously improve. Our customers always receive safe, clean, dependable, friendly, convenient, accessible service. Our communications are outstanding; Metro information is readily available and easy to understand. Riding Metro is a pleasure.*
- **Employees are Metro; we are a team** — *We are "One Metro," an organization without barriers, working as a team to achieve our vision of excellence. All employees and departments share a unity of purpose and clear direction. We support each other through mutual trust and respect. We celebrate and reward each other's successes and foster innovation and risk-taking. We each take responsibility for making things better and accept accountability. Employees are the foundation of Metro and our most valuable asset. We recruit and hire only the highest quality people. All employees receive ongoing training and have state-of-the-art equipment and support systems. We have fair, consistent policies and procedures, administered with flexibility and common sense. We communicate openly, honestly, and positively with each other. Information is shared freely. We engage in group decision-making and problem-solving. Each of us is a leader in making Metro the perfect place to work. All managers are consistent, committed, and concerned. Positive leadership inspires everyone's best work efforts and great relationships. We are happy, healthy, and highly motivated. We love our jobs and have fun.*

As one result of this unusually widespread vision process, a number of grassroots initiatives were suggested by employees and are being supported by Metro management. By starting with work groups as multiple sources for the synthesized, overall vision, Metro leaders capitalized on employee enthusiasm for positive change and encouraged a culture of employee involvement.



Use 360-degree feedback to help reinforce living the values. This is a formal feedback system designed to help the person receiving the feedback develop his or her abilities to live the common values. Periodically, each manager's subordinates, colleagues, and superiors (sometimes even customers and suppliers) provide anonymous feedback on how well his or her behaviors and management style conform to the common values. This system typically uses a structured set of survey questions created around organizational values or other leadership behaviors. Results are tabulated and fed back to managers through a neutral third-party. Managers are then asked to use this feedback to plan how they will develop and improve personal leadership. This system is normally deployed first with top-level managers, then moved down through the management ranks. Many organizations eventually include front-line employees who interact with customers.



RESOURCES

- AT&T Quality Library, *Policy Deployment Handbook*, Select Code 500-453, 1992.
- King, B., *Hoshin Planning - The Developmental Approach*, GOAL/QPC, 1989.
- Lynch, R., *Lead! How Public and Nonprofit Managers Can Bring Out the Best in Themselves and Their Organizations*, 1993.

IDENTIFY CUSTOMER SATISFACTION PERCEPTIONS, PRIORITIES, & PROBLEMS

*"It is really common sense...putting the customer first,
making sure the customer is happy"*

— Jesse James, Driver, PDRTA

Establish a customer focus early in your quality journey. Without it, a TQM initiative can degenerate into a series of disconnected efforts that may initially help employees "feel good" about themselves but, in the long run, will create cynicism. Those employees who come to work every day with a customer ethic may then wonder what all this TQM stuff is about.

To establish a customer focus, you must get information about your customers. There are two primary sources of customer information:

- The customer
- The customer-facing front-line employee

A good way to create a customer focus is to have employees develop and conduct customer surveys. These surveys often take the form of "customer report cards" and can be administered through an interview process and/or using written surveys that are filled out by customers. The report cards are used to get feedback on the most important aspects of service that affect overall perceptions of customer satisfaction. Surveys provide breadth of information.

Customer focus groups will provide information that complements what you learn from surveys. Focus groups are simply focused discussions among a small group of people, in this case, customers. You'll get much more detailed and richer information, i.e., depth, from a focus group than from a report card. Many experts recommend using focus groups to refine a draft report card and to get feedback on a variety of specific issues. Key customer focus group questions include:

- What are the most important aspects of our service?
- How satisfied are you with these aspects of service?
- What do you like most about our service?
- What do you like least about our service?
- Do you have any suggestions on how we can serve you better?

Post the results of customer satisfaction surveys and focus groups throughout the workplace. Quantitative ratings gained through report card surveys can be posted in the form of customer scoreboards. Qualitative results, in the form of quotes from customers can be categorized by key aspects of your service and/or by service route. Some follow-up actions may be the responsibility of every employee in the course of a normal work day. Other actions may be delegated to QITs.

Front-line employees who have lots of contact with customers are an invaluable source of customer information and ideas for improvements. Too many organizations put little or no emphasis on listening to front-line employees. To take advantage of this valuable resource, make supervisors responsible for using employee input to improve customer service. Of course, you'll need to support supervisors by providing needed training and reinforcement throughout.

Not all departments and work groups have routine contact with external customers but every department and work group has a "customer," someone who needs and uses their work. Maintenance employees are serving the driver in addition to providing the passenger with a quality vehicle. The parts department serves the mechanics who rely on the availability of parts to succeed at their job. By creating an understanding of "internal" customers, everyone knows how they contribute to the larger team effort in a personal way – yet never losing sight of who the overall team serves – the passengers and the community.

When developing a customer focus, start by thinking of the passenger as customer but don't stop there. As you become more adept at TQM, you'll broaden your definition of customers to include many others in addition to your current passengers. For example, consider the communities you serve, that is, the taxpayers. They are also your customers.



Conducting Focus Groups:

- What – A focus group is a meeting, typically with 5 to 10 participants, who have a focused discussion on specific topics. It's used primarily to gather qualitative data.
- How long – One group typically lasts between one and two hours. There is no formal break.
- Size – Seven participants is the ideal number.
- Number of groups – The typical advice is to conduct groups until the information gets repetitive. In most cases, this happens after four to six focus groups.
- Facilitator – Use a skilled, objective facilitator who has a prepared set of discussion questions. This person should encourage everyone to build off of other's ideas and should manage group dynamics.
- Collecting data – A notetaker/scribe normally accompanies the facilitator. Ensure participant quotes are collected along with any quantitative ratings.
- Anonymity – Assure participants full anonymity.

EXAMPLE

A Customer Report Card (and development process) from STA

After reviewing and discussing market research reports, the team responsible for getting customer input divided itself into three sub-teams, each addressing one of these areas: 1) design of the Customer Report Card, 2) methods of collecting data, and 3) validation of customer responses.

The Report Card itself was pilot-tested and revised with real customer input. On-street customers in 30 service areas reviewed and commented on the sample report card. Then, 300 surveys were pilot-tested on both fixed-route and paratransit services. The customer input team recruited 90 front-line employee volunteers to distribute customer report card surveys to transit passengers. Each volunteer received a TQM tote bag in appreciation of his or her efforts. More than 3,600 completed survey forms were returned – a 65 percent rate of return! The customer survey results were compiled by an outside market research firm, and a report was presented to the leadership team and department managers. Poster-sized Customer Report Cards now hang in eight locations and are updated as new customer satisfaction data are collected.

Spokane Transit Authority's Customer Report Card

PLEASE EVALUATE OUR SERVICE BY MARKING THE APPROPRIATE BOX.

		Outstanding	Pleased	Satisfactory	Falls Short	Needs Help
YOUR BUS OR VAN						
1. Cleanliness-Inside	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Cleanliness Outside	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Availability of Seats	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Dependable Equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Heating/Cooling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Comfort	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Destination Sign Information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
YOUR DRIVER						
8. Courteous	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Appearance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Attitude	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Helpfulness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Driving Skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
RELIABILITY AND SERVICE						
The one facility I use most often is: Shelters ____ Transit Centers ____						
Park and Ride Lots ____ Bus Stops ____						
13. On Time Performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Time Between Buses/Vans	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Hours/Days of Service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Length/Directness of Ride	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Feeling of Safety While Riding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Ease of Fare Payment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Ability to Transfer on Time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FACILITIES						
20. Cleanliness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. Location	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. Signs and Information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. Safety/Security	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OTHER CUSTOMER SERVICES						
(Example: 328-RIDE, Paratransit Schedulers, Bus Shop, etc.)						
24. Available When You Need It	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. Prompt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. Courteous	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. Clear/Understandable Information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. Accuracy of Information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. Handling of Complaints	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30. Understandable/Usable Printed Schedules	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

RESOURCES



- AT&T Quality Library, *Great Performances! The Best in Customer Satisfaction and Customer Service*, Select Code 500-450, 1991.
- Davidow, W.H. and Uttal, B., *Total Customer Service: The Ultimate Weapon: A Six-Point Plan for Giving Your Business the Competitive Edge in the 1990s*, 1989.
- Zeithaml, V.A., Parasuraman, A., and Barry, L.L., *Delivering Quality Service: Balancing Customer Perceptions and Expectations*, 1990.

SPONSOR AND LAUNCH IMPROVEMENT PROJECTS

"I have to admit I was pretty skeptical whether or not they'd give us a free hand on how we did things, but they basically turned us loose"

— Kevin Eaton, Coach Operator, STA

Successful improvement projects are great momentum-builders! Try to ensure that your projects have a good chance for success by carefully focusing them on specific problems or opportunities. Examples of meaningful, customer-focused, concrete projects include reducing the number of vehicle breakdowns because of engine overheats or designing more user-friendly public schedules/timetables. Avoid broad and unfocused projects, for example, improving morale or reducing absenteeism. These are typically symptoms of much larger problems, and the symptoms will remain until the root causes of the broader problems have been attacked.

Topics for improvement projects can be identified either by management or by employees. Eventually, you'll want to have a mix of a few projects sponsored by senior leaders and a larger number of grassroots efforts supported by local supervision. Most organizations use QITs to address improvement projects. Don't handpick members of the QITs. Instead, support open, voluntary employee involvement with public criteria for team participation. Ideally, you'll arrange for the QITs to get training or other support in using a team problem-solving process. QITs have the following characteristics:

- Are best used for problems or improvement opportunities complex enough to warrant a team problem-solving approach
- Disband after the problem or opportunity has been addressed
- Have members from departments and levels that have knowledge of or are affected by the problem or opportunity
- Have a team leader who spearheads the effort, and may have a trained facilitator to guide the problem-solving process and promote healthy group dynamics
- May have a team sponsor, usually a member of senior leadership or management. (The sponsor mentors the project, ensures that the QIT has needed resources, and helps remove potential roadblocks.)

Sponsoring and launching the first QITs is an opportunity to establish early victories resulting from employee involvement. This is an important component of foundation building. You may prefer to wait for Customer Report Card results and then use those results to help select the problems that QITs will tackle. Or you may choose to launch a few QITs right at the start of your TQM effort. Just be sure to focus those on areas that clearly affect customers. In either case, it's best to start slow, with a few QITs focused on relatively simple improvement projects. To build momentum for your TQM efforts, be sure to celebrate those early successes publicly.

When the first wave of improvement projects comes to a close, be prepared to follow up with new projects. Plan to broaden the base of employee involvement in the second wave of projects and, at the same time, to take advantage of the employees who have gained experience in team problem-solving. The second wave of improvement projects will carry the organization into the second phase of TQM, the Momentum Phase. We'll say more about this later.



An effective QIT problem-solving process often has steps like the following:

- Clarify project goals and state them in measurable, concrete terms (e.g., reduce number of vehicle breakdowns due to engine overheating by 50 percent while keeping all other costs constant)
- Build and lead the QIT that will solve the problem
- Analyze the problem and identify its most basic causes, called "root causes"
- Develop potential solutions and recommend or select the best one
- Develop a plan for implementing the solution
- Implement the plan and define responsibility for ongoing improvement
- Celebrate the QIT contribution
- Disband QIT when the solution is self-sustaining



Although some QITs will have a longer-term charter, most should make recommendations for improvement within eight weeks. What ever the timeframe, all QITs should be encouraged to set deadlines, including intermediate milestones, to maintain their focus.



Most of the following useful tools and techniques for QITs are detailed in *The Memory Jogger II* (see the resources below):

- Brainstorming and brainwriting to generate ideas
- Multivoting to narrow choices to a manageable few
- Thumbs-up/thumbs-down/thumbs-sideways to facilitate group consensus
- Surveys and checksheets to facilitate data gathering
- Flowcharting to understand the current process and/or design a new process
- Cause and effect analysis to analyze causes, including potential root causes
- Gantt charts and other tools to help manage the problem-solving project

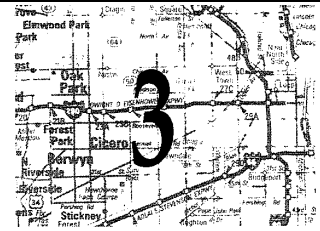
EXAMPLE A selection process for QIT members

An employee committee created a volunteer process for QIT participation. The volunteer process was designed to ensure that a QIT would have the expertise it needed without handpicking members. The committee first communicated the availability of two improvement projects through a variety of methods and then provided application forms to interested employees. The forms specified both the project objective and the types of employees (e.g., drivers and maintenance supervisors) and their numbers whose expertise was needed to solve the problem. On the same form, volunteers indicated why they were interested and what they might bring to the effort. The employee committee (which represented a broad cross section of employees) selected each QIT member on the basis of volunteer applications.



RESOURCES

- Brassard, M. and Ritter, D., *The Memory Jogger II*, GOAL/QPC, 1994.
- Scholtes, P.R., *The Team Handbook*, 1988.



MOMENTUM PHASE

"I am beginning to feel like I am part of an organization that is growing and that is changing. It's a way of life"

— Marjorie Garza, Coach Operator, STA

Through the activities in this second phase of the TQM journey, the organization creates living examples of the generic TQM values of customer focus, employee involvement, continuous improvement, and leadership. Through these examples, the people in the organization will begin to understand TQM and believe that it can work for them. These beliefs build cultural momentum and that will help ensure the broad-based support for TQM needed for the third phase, Commitment. Each of the momentum-building activities listed below is described in more detail in this section. The activities can be done in any order.

- Clarifying leadership expectations
- Renewing an emphasis on employee training and development
- Recognizing, rewarding, and celebrating contribution
- Identifying and initiating high-priority improvements
- Revitalizing the "suggestion system"
- Evaluating and revising policies and practices to eliminate bureaucracy and empower employees
- Evaluating and improving the quality process

CLARIFY LEADERSHIP EXPECTATIONS

"Sooner or later everybody's going to realize that the ship is leaving the dock and you can either stay on the dock or you can go with us on this voyage...but we're going"

— Allen Schweim, Executive Director, STA

Early TQM efforts in the first phase (Foundation) generally rely on volunteers. In that first phase, leaders create opportunities for others in the organization to assert their leadership and to develop and improve in their practice of TQM. Despite these opportunities, however, many managers will remain on the sidelines. To get them off the sidelines and into the game, the senior leadership must be clear and united in its expectations, and it must communicate those expectations to all of management.

By this time, the expectations should not be a surprise. They should echo the common values and promote the envisioned future role of managers in the organization. Ideally, they would also reflect the behavior practiced by the senior leaders themselves. Typical expectations might be:

- Listening to front-line employees and working with them to implement improvements
- Participating in quality initiatives
- Improving communication and cooperation across departments and functions
- Attending to rather than ignoring "people" issues

By clarifying leadership expectations and issuing the leadership challenge, senior leaders can now push harder with momentum-building activities. They can more easily develop and encourage those that are up to the challenge and begin to ask tough questions of those who lag behind. This is a great opportunity for senior leaders to coach those who lag and to make a sincere effort to bring them on board.

EXAMPLE Management norms at SORTA

Metro has developed management norms and principles that can act as a code of conduct for management employees. Using the principle of employee involvement, nearly 100 management employees participated in creating the management norms, thereby establishing ownership and peer pressure to adhere to the desired management behaviors. In this way, progressive management practice can be more easily reward and reinforced, and coaching can be brought to bear on management employees who are not behaving in accordance with the new environment.

RESOURCES

- Blanchard, K., Carew, D., and Parisi-Carew, E., *The One-Minute Manager: Builds High Performance Teams*, 1990.
- Byham, W.C., Cox, J., *Zapp! The Lightning of Empowerment: How to Improve Quality, Productivity, and Employee Satisfaction*, 1988.
- Schein, E.H., *Organizational Culture and Leadership*, 1992.
- Zenger, J.H., Musselwhite, E., Hurson, K., and Perrin, C., *Leading Teams: Mastering the New Role*, 1994.



RENEW AN EMPHASIS ON EMPLOYEE TRAINING & DEVELOPMENT

"Our investment in training is a national disgrace. That should come as no surprise. Despite lip service about people-as-our-most-important-asset, we value hardware assets over people, and have done so for the last century"

— Tom Peters

"Empowerment" is a key word in TQM. It means that every employee has the authority and ability to solve customer problems and improve operations. But "enablement" must proceed empowerment, otherwise management simply abdicates responsibility under a new banner. As an organization moves forward with TQM, all the employees will need to learn new skills to be successful. Most organizations have provided adequate new technical skills to their employees. With TQM, employees will also need skills in coaching, problem solving, communication, project management, and other areas. Without skilled employees, the TQM initiative will fail. Training budgets simply must increase to support a workplace that depends more and more on the collective brainpower and skill sets of all employees. Training employees in the following areas will support TQM:

-
- Quality awareness — This training is probably best delivered by members of the leadership team in partnership with the immediate supervisor. Some professional facilitation may be helpful. The training can take the form of briefing sessions and less structured dialogues. Normally, these sessions introduce quality principles, the organization's TQM goals, and its action plan. In addition, sponsor employee visits to organizations known for leadership and quality, or invite knowledgeable practitioners to discuss their journey with your group. Use this vehicle for leadership team education.
 - Employee orientation — New employees should have quality awareness training in their first week on the job. Consider assigning the new employee to a mentor known for their leadership ability for at least their first month.
 - Coaching skills training — In TQM, the roles of managers and supervisors are very different from those in a traditional organization. It's important to create a training curriculum mapped to these new expectations. Role playing can help managers and supervisors learn some of the "soft" skills and the tools used for employee development, soliciting and implementing employee suggestions, and managing across departments.
 - Quality Improvement Team training — This equips teams and/or team leaders with basic problem-solving, group-dynamic, and meeting management tools. If you use QIT sponsors, such as senior leadership team members, this training should explain their role and functions.
 - Quality facilitators — Employees who demonstrate leadership capabilities can apprentice with more seasoned quality facilitators to learn new skills.
 - Advanced quality training — Developing personal, group, and organizational expertise in more advanced quality applications, e.g., in reengineering processes, in creating self-managing teams, and in revamping measurement systems. In addition to training, developing this expertise often requires consulting support.
 - Professional development plans — Employees who want to advance in the organization should have the opportunity to create professional development plans. These specify skill development, team assignments, and potential job rotations that will position the employee to achieve his or her professional goals. It's often helpful to use mentors to help employees develop and implement these plans. Furthermore, increase the use of planned rotational assignments.



You've probably heard of just-in-time inventory management. Apply the same concept to training, and try to ensure that employees are trained just before they need to use the skill at work. For example, provide training in problem-solving just as a QIT forms and before it begins to work.

EXAMPLE**Pilot training effort at CTA focusing on customer interaction and culture change**

The CTA labor-management relations subcommittee began a pilot project to change the way managers interact with employees on customer complaints. The program offers an alternative action besides discipline for the first complaint. Employees will have the option to take an interactive compact disk video training program focusing on customer interaction.

RESOURCES — Organizations offering TQM-related training include:

- American Management Association. 135 West 50th Street, New York, NY 10020, 518-891-4048.
- American Productivity & Quality Center (APQC). 123 North Post Oak Lane, Suite 300, Houston, TX 77024, 713-681-4020.
- Association for Quality and Participation (AQP). 801-B West 8th Street, Suite 501, Cincinnati, OH 45203, 513-381-1959.
- American Society for Quality Control (ASQC). 310 West Wisconsin Avenue, Milwaukee, WI 53203, 414-272-8575.
- Quality and Productivity Management Association (QPMA). 300 Martingale Road, Suite 230, Schaumburg, IL 60173, 708-619-2909.

RECOGNIZE, REWARD, & CELEBRATE CONTRIBUTION

"I am very proud to be a part of TQM...it has changed my life and hopefully it has changed a lot of other employee lives also"

— Ruby Brockington, Safety & Training
Technician and Senior Driver, PDRTA

Recognize, reward, and celebrate contributions and improvements publicly. To have the desired impact, the leadership team should be personally and visibly involved. In the early stages of this phase, you'll be recognizing the results of the earliest improvement efforts. Those first volunteers were willing to experiment, to stick their necks out, to risk ridicule from their peers. They put in effort above and beyond normal work duties — these people are the champs! The leadership team should acknowledge its special debt to these trailblazers. Go out of your way to recognize their special contributions.

As you move beyond the early improvement efforts on your quality journey, continue to use recognition, reward, and celebration to sustain and reenergize your efforts. It's up to the leadership team to sponsor the creation of recognition processes, events, and programs of many varieties. See the list below for inspiration:

- Team presentations – The team tells its story as well as presenting its results.
- Sharing rallies – Teams, individuals, and work groups come together to share their accomplishments and learn from each other.
- Peer recognition – Supply everyone with blank "Thank You" cards. When someone is especially helpful, anyone can give him or her a "Thank You." Cards can be displayed in their vehicles, at their workspaces, or on their lockers.
- Quality Day celebrations – Once a year, have a formal celebration that recognizes the great work everyone has done and provides a forum for team stories of contribution.
- Story-telling and folklore – Find opportunities to tell stories of individuals and teams that went above and beyond the call of duty, took risks, delighted customers — better yet, find ways to let them tell their own stories!
- Publications in Newsletters – Highlight the efforts and contributions of individuals and teams.
- Increased leadership opportunities – Provide opportunities for increased leadership responsibility when individuals and teams have earned it.
- Commendation bulletin boards – Create a bulletin board for customer commendations.
- Pins, totebags, coffee mugs – Give tokens of appreciation for participation in the quality process.

RESOURCES

- Knouse, S., *The Reward and Recognition Process in Total Quality Management*, 1995.



IDENTIFY AND INITIATE HIGH-PRIORITY IMPROVEMENTS

*"The recipe for action should consist of 90 percent substance
and 10 percent exhortation, not the reverse"*

— Joseph Juran

Once an organization reaps the benefits of basic quality improvement methods such as QITs, it will probably want to multiply the numbers of such efforts throughout the organization. This is a healthy motive but, unfortunately, increasing the number of QITs will not guarantee increased success. This is the time to establish a balance between a larger number of localized grassroots improvement efforts — and a short list of high-priority improvement initiatives selected by senior leadership. Improvement efforts with the highest priority should be those that provide the biggest bang for the buck in terms of customer satisfaction and are most clearly aligned with the organization's mission, vision, and strategic goals. See the example on page 26 of a planning matrix to link customer satisfaction and performance measures to the selection of high-priority initiatives.

Leadership teams can use a variety of methods to identify and assign priorities to improvement initiatives. One of the most formal is known as policy deployment (see the example of a policy deployment process flow on page 26). This same method is sometimes called Hoshin Planning. It begins with customer input and the vision and mission of the organization. Major improvement initiatives are defined through a process known as "catchball." Catchball describes the back-and-forth communication required between senior leadership, operational managers, and project teams — such as QITs — to manage all aspects of planning and implementation for the improvement initiatives. It's common for several QITs to be coordinated through a single policy deployment improvement initiative. QIT leaders will meet regularly with a designated senior sponsor to coordinate improvement efforts deployed through a major initiative.

Less formal approaches to selecting high-priority improvement initiatives include simply developing a short list of priorities that show a direct line of sight to key customer priorities or establishing a "Top 5 most wanted" list at the company level or by modes or major divisions. Once the objectives of an initiative have been accomplished, a new initiative takes its place on the Top 5 list.

Another quality method often used in conjunction with identifying and initiating high-priority improvement initiatives is "benchmarking." The basic concept behind benchmarking is to look at other organizations that have achieved high levels of performance in a particular area of interest, e.g., vehicle maintenance, in order to learn the practices and processes that help them succeed. You may benchmark against other transit agencies or against companies outside the transit industry that do something of interest particularly well, e.g., managing customer complaints. Benchmarking during the Momentum Phase is best applied on a project basis. Extensive across-the-board benchmarking efforts are normally reserved for mature quality efforts.

EXAMPLE

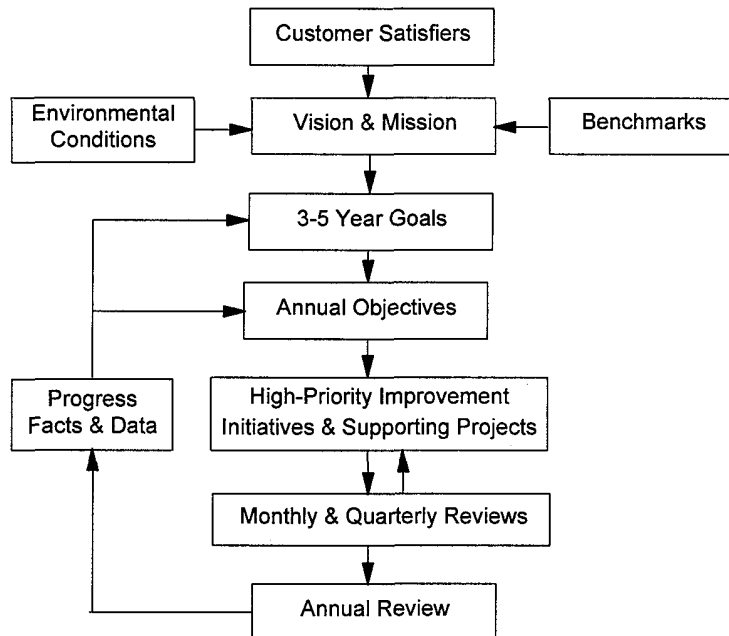
A planning matrix links customer satisfaction ratings and performance measures to the selection of high-priority initiatives

Customer Value Map		Measures		Actions		
Attributes	Subattributes	%Pleased+	Perf Objs	Project	Sponsor/Leader	
Overall Customer Satisfaction	Safe & Secure	While Riding	82	# Accidents	—	—
		Facilities*	56	Crime stats	Crime stoppers	Security
	Reliable	On-Time Perf	72	95% OTP	—	—
		Depend Equip	77	9000 MBR	—	—
	Convenient & Easy to Use	Hrs/Days	66	Service Hrs	—	—
		Ability to Transfer	67	NA	—	—
		Time Between Buses & Vans	70	Headways	—	—
		Public Schedules*	61	NA	User-friendly schedules	AS/KE
	Clean & Comfortable	Vehicles	77	NA	—	—
		Facilities*	60	NA	Upgrade	Facilities Maint
	Courteous & Responsive	Courtesy	88	NA	—	—
		Cust Service Prompt	72	NA	—	—
		Complaint Handling*	61	Time to respond	Reengineer process	GK/JW

***1995 High-Priority Improvement Initiatives**

EXAMPLE

Policy deployment process flow



RESOURCES

- AT&T Quality Library, *Policy Deployment Handbook*, Select Code 500-453, 1992.
- Camp, R.C., *Benchmarking: The Search for Industry Best Practices that Lead to Superior Performance*, 1989.
- King, B., *Hoshin Planning – The Developmental Approach*, GOAL/QPC, 1988.



REVITALIZE THE "SUGGESTION SYSTEM"

The suggestion system allows anyone with an idea for improvement to contribute. Most ideas will not be home runs; however, the cumulative effect of many incremental improvements adds up to significant results and, most importantly, creates a culture that promotes continuous improvement by everyone as a way of life. In Japan, continuous improvement by all is known as "kaizen."

Successful suggestion systems provide a multitude of ways for an employee to suggest an idea or put it into action. When employee suggestions are valued, management is expected to listen and, when the suggestion is bigger than something the employee can implement him or herself, take action. Most American suggestion systems are failures primarily because they rely only on a centralized bureaucratic suggestion box that removes the responsibility for implementing improvements from local management. To revitalize your suggestion system, we recommend that senior leadership plan for the following three stages:

- Interest – Implement as many suggestions as possible and respond quickly to all of them. If a suggestion cannot be implemented, say why.
- Education – Educate and coach employees to improve the quality of their suggestions.
- Impact – Put more emphasis on suggestions with economic impact.

You won't revitalize your suggestion system if you skip the "interest" and "education" stages and go directly to "impact." In our experience, most suggestions with high economic impact come from a team rather than an individual. The economic impact of individual suggestions is generally because of the cumulative effect of many small improvements. Of course, implementing individual suggestions also helps create the mindset and culture of continuous improvement, that is, kaizen.

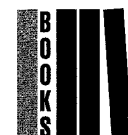


Go slowly when beginning to revitalize your suggestion system. Emphasize that the entire senior leadership team expects supervisors to solicit and act on all front-line employee suggestions for improvements to service and operations. If you choose to continue with a centralized suggestion system, add visible senior leadership support.

For example, review the status of suggestions as a standing leadership team agenda item. Also, consider piloting less formal local suggestion systems. Just be sure to pilot these with supervisors who are eager to try new things and implement employee suggestions. Above all, before you introduce any suggestions system, prepare the way so that the system can deliver on its promises.

RESOURCES

- Imai, M., *Kaizen: The Key to Japan's Competitive Success*, 1986.



EVALUATE & REVISE POLICIES & PRACTICES TO ELIMINATE BUREAUCRACY & EMPOWER EMPLOYEES

"Getting people to step up and be owners of the system has, hopefully, secured our future"

— Bill Spraul, Division Director, SORTA

TQM promotes the concept of a value-based organization in which people's work is guided by direction, values, and accountability instead of by the rule book and elaborate staff procedures. For most transit organizations — indeed, for most organizations — this is a huge and threatening change. Although many of transit's "rules" are designed to promote public safety, many more are rooted in a long history of command-and-control management practice.

We recommend that the leadership team look for opportunities to revise policies and practices to remove barriers that prevent employees from delighting their customers. A few simple rule changes can send a powerful signal that things are changing for the better. Examples include:

- Giving every operator his or her own business card, which entitles a passenger to a free ride – This can help the operator recover from service problems and may turn a potentially dissatisfied passenger into a loyal customer.
- Keeping first-time customer complaints off the driver's service record – Give drivers the option to receive training that may help them in dealing with difficult passenger situations.
- Eliminating unnecessary approval processes.

If you can't seem to identify opportunities for revising policies and practices to eliminate bureaucracy and empower employees, get out there and discuss this with front-line employees. Facilitated employee focus groups are another effective means to get at some of these issues.



Survey employees periodically to track employee satisfaction and their perceptions of the organization's progress. Make sure the survey is anonymous, and report the results widely within the organization. An example is provided on page 31.

EVALUATE AND IMPROVE THE QUALITY PROCESS

As you do for any other aspect of your organization, you should evaluate the TQM process itself and improve it on a regular basis. Normally, the evaluation should be done once a year. Coordinate it with other significant planning functions, e.g., the annual budgeting process. Major steps to evaluate your quality process include:

- Determining the areas for the evaluation and assessment method
- Conducting the quality assessment
- Identifying quality process improvement opportunities

Early in your journey, i.e., during the Foundation Phase, it may be more appropriate to use fairly elementary areas of evaluation. After the quality process has established sufficient momentum, it may be more productive to do a more comprehensive and rigorous evaluation using, for example, the Malcolm Baldrige National Quality Award criteria.

Assessment methods range from informal self-assessments to formal third-party audits based on extensive documentation and review. Generally speaking, it's best to use an objective auditor or audit team skilled and experienced in both the use of quality assessments and the transit industry. Employee focus groups are often helpful for gaining insight into the effectiveness of various TQM initiatives and the overall cultural impact of the TQM process.

EXAMPLE Elementary evaluation areas for a quality process

1. Customer Focus: To what extent do we see:
 - Customer satisfaction input, measurement, and priority identification
 - Improvement efforts targeted to improve customer service and satisfaction
 - Customer satisfaction integrated into organizational objectives and accountability
2. Employee Participation and Development: To what extent do we have:
 - Employee involvement in improvement
 - Employee empowerment and involvement in decision-making
 - Employee development, training, and support
 - Employee recognition for quality improvement
3. System for Continuous Improvement: To what extent do we have:
 - Processes for improvement opportunity identification and selection
 - Processes for improvement opportunity analysis and implementation
 - Use of objectives, measurement, and evaluation
 - Process as well as project orientation
4. Leadership: To what extent do we see:
 - Senior-management involvement in creating and reinforcing customer focus and quality principles, including communications processes
 - Middle-management and supervisor involvement in supporting customer focus and quality principles
 - Labor-management teamwork
 - Overall culture change momentum

EXAMPLE**1995 Baldrige evaluation items**

1995 Examination Categories/Items	Point Values
1.0 Leadership	90
1.1 Senior Executive Leadership.....	45
1.2 Leadership System and Organization.....	25
1.3 Public Responsibility and Corporate Citizenship.....	20
2.0 Information and Analysis	75
2.1 Management of Information and Data ..	20
2.2 Competitive Comparisons and Benchmarking .	15
2.3 Analysis and Use of Company-Level Data ...	40
3.0 Strategic Planning	55
3.1 Strategy Development.....	35
3.2 Strategy Deployment.....	20
4.0 Human Resource Development and Management	140
4.1 Human Resource Planning and Evaluation .	20
4.2 High Performance Work Systems.....	45
4.3 Employee Education, Training, and Development .	50
4.4 Employee Well-Being and Satisfaction	25
5.0 Process Management	140
5.1 Design and Introduction of Products and Services .	40
5.2 Process Management: Product and Service Production and Delivery	40
5.3 Process Management: Support Services	30
5.4 Management of Supplier Performance .	30
6.0 Business Results	250
6.1 Product and Service Quality Results	75
6.2 Company Operational and Financial Results.....	130
6.3 Supplier Performance Results	45
7.0 Customer Focus and Satisfaction	250
7.1 Customer and Market Knowledge	30
7.2 Customer Relationship Management.....	30
7.3 Customer Satisfaction Determination.....	30
7.4 Customer Satisfaction Results	100
7.5 Customer Satisfaction Comparison	60
TOTAL POINTS	1000

RESOURCES

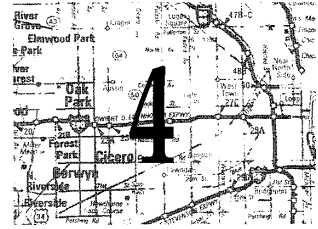
- American Society for Quality Control, *Malcolm Baldrige National Quality Award Criteria*, 1-800-248-1946.
- Hart, C.W.L. and Bogan, C.E., *The Baldrige: What it is, How it's Won, How to Use it to Improve Quality in Your Company*, 1992.

Employee Survey

PART 2 — Your Opinions. Indicate how much you agree with the following statements by checking the appropriate box. (Note: The phrase "this organization" below, refers to all of STA)	Strongly Agree	Agree	Somewhat Agree	Somewhat Disagree	Disagree	Strongly Disagree
1. Most of our passengers would say this organization provides high quality service.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. This organization understands what passengers want.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Most employees I know are satisfied with their job.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Management understands the problems front-line employees face on the job.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. This organization is highly regarded by the general public.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. This organization uses information from passengers to make improvements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I would recommend this organization to a friend as a good place to work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. This organization's commitment to passenger satisfaction is obvious in what we do on a daily basis.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. This organization looks for the causes of problems rather than blaming people.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Labor-management cooperation is good at this organization.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. This organization uses information from employees to make improvements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. This organization is working hard to eliminate some of the problems faced by front-line employees.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. This organization supports me when a conflict arises while I'm doing my job.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. This organization provides adequate and appropriate training.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. I have the resources to do my job well.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. This organization often consults with front-line employees to determine the causes and possible solutions for problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Employees are treated with respect in this organization.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. This organization takes action to improve passenger satisfaction.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. There is good cooperation between my group and other groups in this organization.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. This organization makes good use of teamwork to solve problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. This organization recognizes employees who do a good job.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. This organization is constantly looking for better ways of doing things.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. I have the authority I need to do my job well.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. This organization is establishing a climate where employees can challenge our traditional ways of doing things.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. Overall, I think this organization is changing for the better.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Thank you for taking the time to fill out this survey. Please use the attached envelope to mail your survey today.

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COMMITMENT PHASE

"I think it's really the only way to go in the future. I think anyone that wants to be cost-effective, efficient, and have a healthy organization, needs to go to this type of process"

— Carlos Rowland, Division Director, SORTA

Activities in this third phase help change the organization's formal structures, systems, and accountabilities. For example, an organization might change the way it maintains vehicles by implementing self-managed teams of mechanics responsible for a particular group of vehicles. Activities in this phase will provide the greatest payoff for an organization in terms of increased ridership, improved productivity, and reduced costs. These activities will also help ensure ongoing organizational improvement.

Remember, however, that these changes are potentially deep and broad in their reach. Although some organizations gain by implementing these bolder activities early on, most of the more formal changes are often short-lived unless a solid foundation and culture change momentum has been established. Activities that represent a more formal commitment to the philosophy and practices TQM embodies include:

- Establishing process management
- Reengineering work processes and job responsibilities
- Implementing supplier management and partnerships
- Evaluating and improving the measurement system
- Evaluating and improving the management performance appraisal system
- Instituting a system of "organized abandonment"

Ideally, the preceding six activities would be conducted in conjunction with each other. Of course, reality dictates not biting off more than you can chew. To help resolve this dilemma, we recommend using experimental pilot projects that make use of the organization's most effective leaders at all levels. Through these pilot projects, you'll create the momentum for structural change and learn how best to approach change in your organization. You can, in turn, leverage this learning into total organizational commitment for the large-scale changes required to achieve breakthrough performance.

ESTABLISH PROCESS MANAGEMENT

"An organization chart has two purposes — it shows which people have been grouped together for operating efficiency and it shows reporting relationships. For these purposes, the organization chart is a valuable administrative convenience. However, it should not be confused with the 'what', 'why', and 'how' of the business; all too often it's the organization chart, not the business, that's being managed"

— Geary Rummler and Alan Brache

Within the quality movement, the word "process" refers to how work activities are performed. Typically, a process that creates value for a customer crosses several boundaries in an organization. For example, meeting customer expectations for on-time performance may require the joint efforts of those in scheduling, maintenance, and operations. The term "process management" means that an organization manages work across functional or departmental boundaries, whereas traditional organizations manage within those boundaries.

In process management, the emphasis is on improving how we manage the workflow, including refining the measures we use, planning for better feedback from customers and better communication across departments, and establishing accountability for the things that matter most to customers.

Key process management concepts include:

- Process accountability — End-process results are typically those of most interest to customers. They are often the responsibility of a cross-functional team with ongoing responsibility for managing the process. The people on the team should be senior enough to assume full management responsibility for their piece of the process. A senior-level process sponsor is often helpful in removing roadblocks and mentoring the team and is where the buck stops if process issues need to be escalated for decision-making.
- Understanding the big picture — Process management efforts often begin by creating a high-level flowchart of the organization's cross-functional processes with the objective of identifying major process hand-offs and how various work groups interact.
- Customer requirements — This is what the customer requires of the process in terms of quality, cost, and schedule. Although end-process customer requirements are primary, agreements between internal customers and suppliers are often used to bring clarity to the requirements associated with interdepartmental work.
- Measures and feedback systems — Process measures, including measures of supplier quality, are used to manage key internal process points and to set performance targets. Normally, the process management team determines critical measures and performance targets to meet customer requirements. Feedback systems go beyond measurement to ensure regular proactive communication between customers, process members, suppliers, and other key stakeholders.
- Continuous process improvement — The process management team is also accountable for improving process performance. They often commission and sponsor QITs to make specific improvements. In some cases, they may determine that the entire process needs to be reengineered as described in the following section.

EXAMPLE

The matrix on Page 36 links generic transit quality attributes and organizational functions to identify cross-functional accountabilities for customer satisfaction.

EXAMPLE

The organizational process map on Page 37 provides a big-picture view useful in establishing process-oriented accountability, measures, and feedback.

RESOURCES

- AT&T Quality Library, *Process Quality Management & Improvement Guidelines*, Select Code 500-049, 1988.
- Rummler, G.A. and Brache, A.P., *Improving Performance: How to Manage the White Space on the Organization Chart*, 1990.

**REENGINEER WORK PROCESSES & JOB RESPONSIBILITIES**

"It is time to stop paving the cow paths"

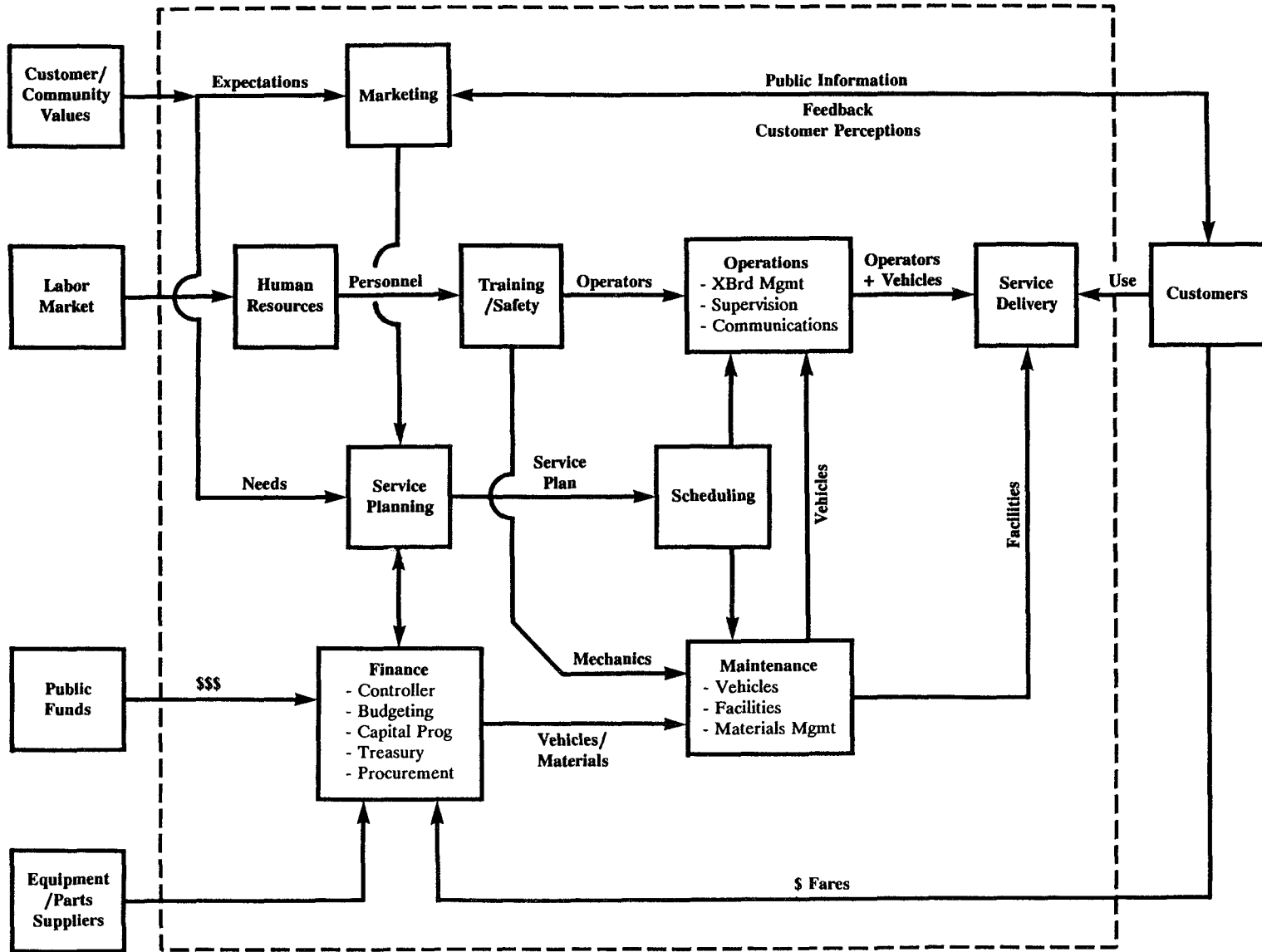
— Michael Hammer

Reengineering has been a popular concept in the private sector since the early 1990s. The essential idea is to redesign work according to cross-functional processes that can best meet the needs of customers. In reengineering a process, the design team is urged to "start with a clean slate" and to make the best use of modern information technology.

Some reengineering efforts have been very successful, but many more have failed. Too often, the designers underestimate the human factor or ignore the need to build a solid foundation and cultural momentum. A failure on management's part to integrate properly the human/cultural factor and to reengineer support systems (e.g., measurement, accountability, and rewards) along with the actual work processes has been a major stumbling block. However, for most transit systems, some reengineering will be necessary to produce better results. Without it, we have the same work process, same result — working harder will be an exercise in futility.

When you start to consider reengineering, consider as your first priorities developing more motivating jobs and teamwork for the front-line customer-facing employees. Next, consider those support processes, systems, and information technology that are needed to support the front-line employee. In reengineered processes, supervisors and middle managers often have new roles — such as supporting self-managing teams and managing cross-functional work processes. If they're not prepared for these roles well in advance of the actual change, they may find reengineering too threatening to support and contribute to it. If certain jobs will be eliminated as the result of reengineering, it's vital to redeploy the affected people responsibly. With represented employees, union consent is a must.

Typical Transit Relationship Map at the Organizational Level





Use the process management concepts and practices described in the previous section in conjunction with your reengineering efforts. A major pitfall is to reengineer with the primary emphasis on process and technology and only gathering "employee input" as an exercise. Avoid this pitfall by reengineering with strong employee involvement and an emphasis on designing jobs with the following characteristics:

- Ownership – The job-holder has ongoing responsibility for something, for example, for "my" bus, "my" route, "my" service area, or "my" accounts.
- Authority for thinking – The job-holder makes key decisions with respect to his or her responsibility.
- Accountability for results – The job-holder is accountable for meeting the goals associated with ownership, such as a reliable vehicle or a satisfied customer.
- Measures of success – The job-holder has a way of keeping score and receiving feedback from customers served.



To establish self-managing teams, senior leadership will need to plan a careful transition. Members of a self-managing team often must be equipped with new job skills (e.g., how to schedule preventive maintenance) as well as new skills in team dynamics. The same person who had acted as their supervisor may now be asked to act as a coach to teach new job skills and to help the team through difficult periods. Both the new teams and their coach will need support and training. Failure to provide that support is destructive.

EXAMPLE Self-Managing Teams.

A two-person mechanic team is given the responsibility for maintaining the same ten vehicles. They are responsible for preventive maintenance of these vehicles and for "contracting out" to other maintenance employees any repairs they cannot perform themselves. The same coach operators drive these vehicles every day during a particular period. In essence, the two mechanics and ten coach operators can become a team focused on delivering excellent customer service to a particular community or neighborhood.

RESOURCES

- AT&T Quality Library, *Reengineering Handbook*, Select Code 500-449, 1991.
- Champy, J., *Reengineering Management: The Mandate for New Leadership*, 1995.
- Hammer, M. and Champy, J., *Reengineering the Corporation: A Manifesto for Business Revolution*, 1993.

IMPLEMENT SUPPLIER MANAGEMENT & PARTNERSHIPS

"End the practice of awarding business on the basis of price tag alone"

— W. Edwards Deming

Companies recognized as quality leaders treat their suppliers as an extension of their own business, i.e., as partners. This is especially true in the case of their key suppliers, those having the most impact on the operation, e.g., parts suppliers, vehicle manufacturers, purchased transportation providers, and construction contractors. Good supplier management and partnerships require that you be clear about your requirements and that you provide suppliers with timely feedback.

The leadership team can introduce consistent and effective approaches to managing relationships with key suppliers by defining or endorsing a supplier policy. The policy outlines when and how the following items are to be addressed in dealing with suppliers:

- Certification of the supplier's quality system — When a supplier's quality system has been certified by independent auditors against well-defined criteria, you may be able to eliminate incoming inspections. Many companies have developed their own criteria and procedures for supplier certification. Others have adopted the Baldrige criteria or ISO 9000 standards.
- Qualification of the supplier's products and services — This ensures a supplier can consistently meet defined product or service requirements.
- Contracts — Trends favor fewer suppliers and longer-term contracts that detail explicit expectations of ongoing improvement in quality, delivery intervals, and/or price.
- Joint improvement activities — The main aspects of joint improvement activities are supplier education, joint planning for improvement, feedback on performance and problems, and recognition for improvement. It is not unusual to have key suppliers participate on your QITs in relevant areas.

RESOURCES

- AT&T Quality Library, *Supplier Quality Management: Foundations*, Select Code 500-496, 1994.



EVALUATE AND IMPROVE THE MEASUREMENT SYSTEM

"If you are not keeping score, you are only practicing"

— Tom Malone, President, Milliken

When you think about your measurement system, remember to evaluate how data are gathered, validated, distributed, and used. A good measurement system also indicates linkages, correlations, and potential cause-and-effect relationships among measures. If you collect data consistently and over reasonably long time periods, you'll be able to analyze trends and to see patterns over time. This will help you manage more effectively.

When an organization reaches this phase of the journey, it will likely have quite a bit of experience in establishing new measures. These measures may include customer satisfaction, employee satisfaction, process efficiency or effectiveness, and supplier quality. You may begin to see how certain measures are linked. For example, you may see how certain operational or process measures are leading indicators of customer satisfaction. That is, when you see improvement in a particular process measure (e.g., on-time performance), shortly afterward you should consistently see an improvement in a particular measure of customer satisfaction. Similarly, supplier quality may impact process cycle times. These linkages can help an organization manage by fact.

An effective measurement system will help every employee see more clearly how they contribute to overall company goals. An intelligent measurement system can also help you allocate resources to achieve the biggest bang for the buck in customer satisfaction.



Good measures are S.M.A.R.T.:

- Specific — focused on a well-defined outcome
- Meaningful — matters to the customer or our ability to perform a job
- Actionable — drives decision-making and improvement
- Reliable — based on good data and sound data gathering methods
- Timely — provides the information to people when they need it

RESOURCES



- AT&T Quality Library, *Analyzing Business Process Data: The Looking Glass*, Select Code 500-445, 1990.
- Davidow, W.H., and Uttal, B., *Total Customer Service: The Ultimate Weapon: A Six-Point Plan for Giving Your Business the Competitive Edge in the 1990s*, 1989.

EVALUATE AND IMPROVE THE MANAGEMENT PERFORMANCE APPRAISAL SYSTEM

*"Merit rating rewards people that do well in the system.
It does not reward attempts to improve the system"*

— W. Edwards Deming

Most transit employees work under labor agreements and are not subject to performance appraisals. Consequently, some transit organizations may be tempted to simply ignore management performance appraisals. This would be a mistake. Most management performance appraisal systems reinforce a patriarchal organizational culture and hinder teamwork. To develop commitment to TQM, they should be brought in line with its principles.

Performance appraisal systems under TQM should promote:

- A customer-focus over a boss-focus
- Employee support
- Team goals as much as individual goals
- Values and leadership behaviors as much as performance results

To bring performance appraisals more in line with the principles of TQM, develop a more balanced set of performance and leadership criteria and use evaluative feedback from several sources, not just the "boss' opinion." The balanced scorecard may include:

- Individual performance indicators
- Team-based performance indicators
- 360-degree feedback regarding leadership behaviors supporting desired values
- Team-based customer satisfaction results
- Skill acquisition and certification of both technical and leadership skills

The process of performance appraisal should also be evaluated and improved to put more emphasis on self, peer, and team evaluation. Individual ranking and rating systems should be replaced or at least modified, so that individuals are not directly compared to one another. In some cases, self-managing teams administer their own appraisals and financial compensation.

RESOURCES

- Knouse, S., *The Reward and Recognition Process in Total Quality Management*, 1995.



INSTITUTE A SYSTEM OF "ORGANIZED ABANDONMENT"

"Just as important as the decision on what new and different things to do, is planned, systematic abandonment of the old that no longer fits the purpose and mission of the business, conveys satisfaction to the customer, or makes a superior contribution"

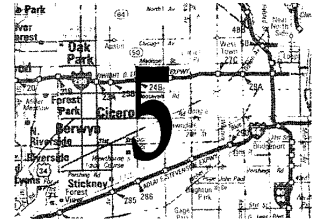
— Peter Drucker

Over time, organizations become a junk pile of outdated practices that clog the system. In a system of "organized abandonment," every product, service, policy, rule, and procedure is put on trial for its life at least once every three years.

Transit agencies typically have a ton of standard operating procedures (SOPs) that have grown over time. Many originated for good reasons like passenger safety, but others were developed because of problems with an individual employee. Many SOPs are in place simply because managers don't "trust" employees and employees get that message loud and clear. Ninety-eight percent of employees are working under many rules designed for two percent of the work force.

A system of regular planned abandonment along with annual quality process evaluations will help any organization update itself and keep pace with the future aspirations of its people, customers, and community.

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LEADERSHIP: THE TQM DRIVER

*"The first job of a leader is to define reality, the last is to say thank you.
In between, the leader is a servant"*

— Max DePree,
Chairman of the Board, Herman Miller

Leadership is people focused, management is task focused. Although we need both to succeed, leadership at all levels is generally in shorter supply. A major leadership imperative is to create an organization that is value-based rather than rule-based. People's work in a value-based organization is guided by direction, values, and accountability rather than relying on the rulebook, elaborate staff procedures, and compliance behavior.

KEY LEADERSHIP RESPONSIBILITIES

Leadership is the engine of transformation required throughout your quality journey. Leaders in a value-based organization are responsible for the following:

- Direction — Enlisting the organization in clarifying its vision, mission, and goals.
- Culture — Promoting desired organizational values and associated behaviors by example.
- System — Creating motivating jobs that provide employees with ownership, authority for thinking, and accountability for clearly defined results. Processes, systems, and structure should support the front-line employee.

Although, all efforts rely on leadership, the following responsibilities are particularly important and will help focus your attention at various points of your journey.

PHASE 1 — FOUNDATION

- Building the senior labor-management team to lead the quality journey — Promote quality awareness, build from common interests and a customer focus rather than "managing differences," and develop TQM goals and an action plan that underscores desired values such as customer focus, employee involvement, and continuous improvement.
- Enlisting support of additional managers, supervisors, and union leaders — Senior leaders should put much of their personal energy into working with those that demonstrate early leadership for quality, ensuring their early success and recognition. The next group to go after are the fence-sitters.
- Sponsoring early quality initiatives — The role of a sponsor is one of a supporting mentor. Acting as a sponsor is an opportunity to model the leadership behaviors you wish to develop in others.

PHASE 2 — MOMENTUM

- Clarifying leadership expectations and focusing on leadership development — Leaders create opportunities for other leaders to assert and develop themselves. To create sufficient critical mass for culture change, senior leaders must clarify expectations consistent with desired values and the future role of managers in the organization.
- Recognizing, rewarding, and celebrating contribution — Trailblazers must be visibly recognized, and processes need to be established to promote the new behaviors.
- Sponsoring high-priority improvements — Sponsorship of improvement projects during the Foundation Phase sets the tone for leadership and experimentation. Sponsorship of high-priority improvements in the Momentum Phase build on earlier experiences and are more strategic in nature.
- Evaluating and revising policies and practices to eliminate bureaucracy and empower employees — This establishes the early signals of fundamental structural change and commitment. Many changes, such as eliminating unnecessary approval processes, are not complex to implement but require trust and coaching.

PHASE 3 — COMMITMENT

- Sponsoring and integrating all commitment phase activities — All commitment activities require involved sponsorship by senior leaders to ensure cultural momentum translates into structural improvements that can produce breakthrough performance results. Integrated pilots that rely on the organization's best leaders at all levels are the senior leader's best tools for leveraging total organizational commitment.
- Continued leadership development — Leaders at all levels of the organization should be emerging through broad opportunities for learning and contribution. These individuals should be tapped on the shoulder for the pilots described above and be given more formal responsibility if they desire.
- Ensure systems for ongoing evaluation and improvement are established — Quality process assessments as well as organizational abandonment practices should be instituted to provide systems for organizational evolution.

LEADERSHIP DEVELOPMENT

*"A requirement of effective leadership is to earn trust.
Otherwise there won't be any followers...and the only definition
of a leader is someone who has followers"*

— Peter Drucker

The majority of us see the need for organizational transformation. Some of us see how our own group needs to be transformed to support and lead the overall cause. However, the building block of transformation is personal change and mastery. This is what leadership and organizational transformation boils down to. Making changes within ourselves to make differences in our workplace. Without this kind of personal leadership, we are only going through the motions of transformation, scratching the surface.

The concept of "situational leadership" implies that there is not one most effective leadership style — we must match the leadership style to the situation, group, and individual. Moving too fast from a directive style to a delegating style is a common mistake — solid enablement and coaching support is vital to creating employee empowerment.

A "senior leadership team" implies collective responsibility for the strategic goals of the organization as well as its culture. Clarifying key measures/goals and accountability for results brings a mission statement down to earth. In addition, the group should identify high-priority improvement areas that will have the biggest bang for the buck, tackle cross-departmental issues, and determine how the group will reinforce and reward the desired values of the organization. They should also take a hard look at all the rules and policies that may still be unempowering.

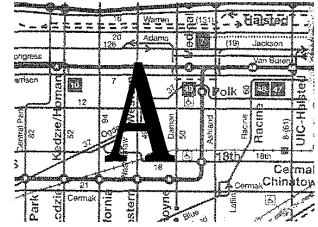
Finally, the goal of leaders must be to develop leadership at all levels of the organization. This begins by providing opportunities for people to better themselves and make meaningful contributions as stewards of the organization.

RESOURCES

- Belasco, J.A., *Teaching the Elephant to Dance: The Managers Guide to Empowering Change*, 1991.
- Block, P., *Stewardship*, 1993.
- Covey, S.R., *Principled-Centered Leadership*, 1990.
- DePree, M., *Leadership is an Art*, 1989.
- Lynch, R., *Lead!, How Public and Nonprofit Managers Can Bring Out the Best in Themselves and Their Organizations*, 1993.



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QUALITY RESOURCES

GENERAL

Deming, W. Edwards, *Out of the Crisis*, MIT Center for Advanced Engineering Study (1982).

Dr. Deming shows the way "out of the crisis" with his famous 14 Points. This book teaches the transformation that is required for survival — a transformation that can only be accomplished by man. Dr. Deming encourages long-term commitment to new learning and new philosophy. He stresses new principles of training and leadership, the need for clear operational definitions, and common and special causes of improvement. "A company cannot buy its way into quality," he writes, — "it must be led into quality by top management."

Imai, Masaki, *Kaizen: The Key to Japan's Competitive Success*, Random House, Inc. (1986).

Kaizen means gradual, unending improvement, doing "little things" better; setting — and achieving — ever-higher standards. In this classic book, Masaki Imai describes how a process-oriented, customer-driven strategy of involving everyone — both managers and workers — in the continuous improvement of products and services will lead to improved quality and productivity.

Juran, Joseph M., *Juran on Leadership for Quality: An Executive Handbook*, The Free Press (1989).

Juran lays out his famed "Juran Trilogy" on how to apply the familiar business concepts of "planning, controlling, and improving" to quality leadership. He gives criteria for selecting project-by-project improvements and for picking a team to carry them out. He also describes a realistic timetable for implementation and directs the formulation of an ongoing quality council.

Peters, Thomas J., *Thriving on Chaos: Handbook for a Management Revolution*, Alfred A. Knopf (1987).

Forty-five prescriptions specify what managers at every level must do — and do fast — if the organizations they lead are to survive, let alone flourish, in today's and tomorrow's chaotic economic environment. The prescriptions are divided into five richly informative sections: creating total customer responsiveness, pursuing fast-paced innovation, achieving flexibility by empowering people, learning to love change, and building systems for a world turned upside down.

LEADERSHIP AND ORGANIZATIONAL CULTURE

AT&T Quality Library, *Leading the Quality Initiative*, Select Code 500-441 (1990).

This book describes a leadership role that supports three fundamental business values: satisfied customers, effective and efficient processes, and empowered and enabled employees. The book draws on a number of key sources including best practices from a growing body of

quality management knowledge and experience of companies including AT&T, the Baldrige criteria, international quality standards, and books and papers by various management and quality experts.

Belasco, James A., *Teaching the Elephant to Dance: The Manager's Guide to Empowering Change*, Penguin Books (1991).

This book gives every manager a step-by-step guide to making the impossible happen and is filled with illuminating case histories of companies large and small that have maneuvered out of stagnation to get back into the competitive mainstream. It shows how to devise new corporate vision and strategies, how to overcome inertia and inbred adherence to "how it has always been done," and how to make both management and labor trail blazers rather than road blockers to new standards of excellence.

Block, Peter, *Stewardship*, Berrett-Koehler Publishers (1993).

Organizations that practice stewardship will succeed in their marketplace by choosing service over self-interest and by a far-reaching redistribution of power, purpose, and wealth. Without this, little real change will result. In place of the "managerial class system" the author says, we need to reintegrate the managing of work with the doing of work. Everybody manages and everybody does real work.

Cohen-Rosenthal, Edward and Burton, Cynthia E., *Mutual Gains: A Guide to Union-Management Cooperation*, 2nd ed, rev., ILR Press (1993).

While quality efforts can be an excellent way to showcase union-management cooperation, both parties should be vigilant about the real hazards, risks, and potential losses associated with such efforts. The key to success is to position quality efforts solidly within the collective bargaining relationship on a foundation of union-management cooperation. Management and unions can do almost anything that they set out to do, when they summon their imaginations and are dedicated to having the highest-quality cooperation in order to provide the highest quality service.

Covey, Stephen R., *Principle-Centered Leadership*, Summit Books (1990).

How do you transform the paradigms of people and organizations from reactive, control-centered management to proactive, empowerment-oriented leadership? While Deming's theory of total quality explains the "what" to do and gives a partial explanation of "why" it should be done, Stephen Covey supplies the missing "how-to-do-it." The Seven Habits are foundation principles that, when applied consistently in practice, become behaviors enabling fundamental transformations of individuals, relationships, and organizations.

DePree, Max, *Leadership is an Art*, Dell Publishing (1989).

Leadership isn't a science or a discipline. It is an art; as such it must be felt, experienced, created. Max DePree is chairman and CEO of Herman Miller, Inc., the furniture maker that was named one of Fortune magazine's ten "best managed" and "most innovative" companies. This is not a how-to manual but brings the reader back to the reality that human values form the basis for extraordinary leadership.

Lynch, Richard, *Lead!, How Public and Nonprofit Managers Can Bring Out the Best in Themselves and Their Organizations*, Jossey-Bass Publishers (1993).

Drawing on numerous real-life examples from government agencies and nonprofit organizations, Lynch explains how leaders can enhance their personal influence, establish a sense of collective purpose, design jobs that reward employees for meaningful results, create a streamlined organizational structure, foster and sustain meaningful values, keep employees hopeful in hard times, and create a positive organizational climate.

Schein, Edgar H., *Organizational Culture and Leadership*, Jossey-Bass Publishers (1992).

This second edition transforms the abstract concept of culture into a tool that managers and students have continually used to better understand the dynamics of organizations and change. The author presents critical new learnings and practices in the field. He defines culture — what it is, how it is created, how it evolves, and how it can be changed — and clearly demonstrates the crucial role leaders play in successfully applying the principles of culture to increase organizational effectiveness.

EMPLOYEE EMPOWERMENT AND TEAMS

Blanchard, Kenneth; Carew, Donald; and Parisi-Carew, Eunice, *The One-Minute Manager: Builds High Performance Teams*, William Morrow and Company, Inc. (1990).

Benefit from learning how to develop through the four stages of team development. This book is essential for anyone who works with groups and wants to improve group effectiveness. It also describes the concept of situational leadership.

Block, Peter, *The Empowered Manager: Positive Political Skills at Work*, Jossey-Bass Publishers (1987).

Empowerment is not a set of techniques — it is a choice. Is this a business strategy you believe in? The promise of empowerment is that it will dramatically increase the sense of responsibility and ownership at every level of the organization, especially at the bottom where products and services are delivered and customers are served. The goal of this book is to present a way of being political that balances the hope for transforming organizations with the risk in attempting change, in a realistic and helpful way.

Byham, William C. with Cox, Jeff, *Zapp! The Lightning of Empowerment: How to Improve Quality, Productivity, and Employee Satisfaction*, Fawcett Columbia (1988).

This book is written in the style of a fable providing light reading while dealing with the basic principles of empowering people — helping employees take ownership of their jobs so that they take personal interest in improving the performance of the organization. This book can help you understand on a fundamental, practical level what empowerment really is, why it is important, and how to start using its key principles on the job.

Zenger, John H.; Musselwhite, Ed; Hurson, Kathleen; and Perrin, Craig, *Leading Teams: Mastering the New Role*, Business One Irwin (1994).

Implementing successful teams presents the challenge of training team members to take more responsibility for their work. But the greater challenge for managers and supervisors is preparing for their new role. The book is a comprehensive guide to the art of shared leadership — helping the team to perform activities that managers once performed alone.

METHODS AND TOOLS

American Society for Quality Control, *Malcolm Baldrige National Quality Award Criteria*, 1-800-248-1946.

The award criteria are published each year and are the basis for making awards and for giving feedback to applicants. In addition, the criteria have three important roles in strengthening U.S. competitiveness: to help improve performance practices and capabilities; to facilitate communication and sharing of best practices information based upon a common set of key performance requirements; and to serve as a working tool for managing performance, planning, training, and assessment.

AT&T Customer Information Center, *AT&T Quality Library*, 1-800-432-6600.

Over 30 quality volumes providing practical advice and examples on a variety of methods and tools. Volumes suggested in this guidebook have included:

- *Analyzing Business Process Data: The Looking Glass*, Select Code 500-445 (1990).
- *Great Performances! The Best in Customer Satisfaction and Customer Service*, Select Code 500-450 (1991).
- *Policy Deployment Handbook*, Select Code 500-453 (1992).
- *Process Quality Management and Improvement Guidelines*, Select Code 500-049 (1988).
- *Reengineering Handbook*, Select Code 500-449 (1991).
- *Supplier Quality Management: Foundations*, Select Code 500-496 (1994).

Brassard, Michael and Ritter, Diane, *The Memory Jogger II*, GOAL/QPC (1994).

The Memory Jogger II is the successor book to *The Memory Jogger* first written and produced in 1985. It is an outstanding reference and guide to basic tools and techniques used by individuals and teams in identifying and solving problems. The book contains the basic Seven Quality Control Tools and the Seven Management and Planning Tools with excellent graphics and examples. The book also contains a complete case study that details Stop'N Go Pizza's using the Improvement Storyboard model.

Camp, Robert C., *Benchmarking: The Search for Industry Best Practices that Lead to Superior Performance*, American Society for Quality Control, Quality Press (1989).

Find answers to the questions: What is benchmarking? How do I perform benchmarking? What are the results of successful applications? Case histories provide examples of actual benchmarking investigations from beginning to end.

Champy, James, *Reengineering Management: The Mandate for New Leadership*, Harper Business (1995).

Now that companies have taken pains to reengineer their operational processes, the management processes must change in accordance. In *Reengineering Management*, Champy reveals that these processes must focus on mobilizing, enabling, defining, measuring, and communicating in order to achieve a business culture that enables a continuous process of improvement.

Davidow, William H. and Uttal, Bro, *Total Customer Service: The Ultimate Weapon: A Six-Point Plan for Giving Your Business the Competitive Edge in the 1990s*, Harper & Row Publishers (1989).

Drawing on in-depth case histories of service leaders who have triumphed and of laggards who have lost, Davidow and Uttal have devised a six-point plan that any company — regardless of what business it is in — can utilize to secure a decisive competitive edge: devise a service strategy; get managers to behave like customer service fanatics; concentrate on motivating and training employees; design products and services that make good customer service possible; invest in service infrastructure; and constantly monitor achievement of customer service goals.

Hammer, Michael and Champy, James, *Re-engineering the Corporation: A Manifesto for Business Revolution*, Harper Business (1993).

This book describes the principles behind a new and systematic approach to structuring and managing work. Written in clear, readable prose, the book describes the what, the why, and the how of business reengineering.

Hart, Christopher W. L. and Bogan, Christopher E., *The Baldrige: What it Is, How it's Won, How to Use it to Improve Quality in Your Company*, McGraw-Hill, Inc. (1992).

In the short span of years since Congress created the Malcolm Baldrige National Quality Award, it has become the most widely sought-after symbol of commitment to excellence and achievement of the highest quality standards. Much more than just a how-to manual for describing what it takes to capture the nation's most prestigious award, *The Baldrige* provides the guidance, discipline, and focus to move your company from the here of current quality to the there of its true competitive potential.

King, Bob, *Hoshin Planning — The Developmental Approach*, GOAL/QPC (1989).

Hoshin Planning creates an organization-wide system for generating and achieving breakthroughs that lead to improved levels of customer satisfaction. The three-part Hoshin Planning process integrates an organization's vertical and cross-functional teams and helps organizations develop a vision understood by every employee as well as one-, three-, and five-year strategic plans.

Knouse, S., *The Reward and Recognition Process in Total Quality Management*, American Society for Quality Control, Quality Press (1995).

This is the first book to specifically examine the reward and recognition process that is vitally important in the implementation of total quality management. Reward and recognition is a central process that links individual and team efforts to TQM and customer satisfaction, in any company. Many organizational examples of reward and recognition are presented.

Rummler, Geary A. and Brache, Alan P., *Improving Performance: How to Manage the White Space on the Organization Chart*, Jossey-Bass Publishers (1990).

Rummler and Brache provide a practical framework for understanding how various departments and functions in an organization interrelate and show how to manage this interaction to enhance the organization's effectiveness. Three avenues of approach for dealing with performance issues are explored: through organizational strategies, structures and management practices; through the processes used to get work done; and through individual jobs and employees.

Scholtes, Peter R. and other contributors, *The Team Handbook*, Joiner Associates (1988).

This book takes sound principles of adult learning and group dynamics and translates them into clear, practical, easy-to-apply strategies and techniques for enabling project teams to do their work effectively and smoothly. It is a valuable resource for any project team, providing detailed guidance and tools helpful at all stages of their work.

Zeithaml, Valarie A.; Parasuraman, A.; and Berry, Leonard L., *Delivering Quality Service: Balancing Customer Perceptions and Expectations*, The Free Press (1990).

The authors' grounding model, which tracks the five attributes of quality service — reliability, empathy, assurance, responsiveness, and tangibles — goes right to the heart of the tendency to overpromise. By comparing customer perceptions with expectations, the model provides planning and marketing managers with a two-part measure of received quality that, for the first time, enables them to segment a market into groups with different service expectations.

PROFESSIONAL SOCIETIES

American Management Association (AMA)

135 West 50th Street
New York, NY 10020
(518) 891-4048

Conferences, seminars, publications, videos, and a membership of over 70,000 organizations and individuals.

American Productivity & Quality Center (APQC)

123 North Post Oak Lane, Suite 300
Houston, TX 77024-7797
(713) 681-4020

Educational and advisory services to organizations in the private and public sectors, courses, case studies, research publications, *The Letter* newsletter, *Continuous Journey* magazine, resource guide, library, and consulting.

Association for Quality and Participation (AQP)

801-B West 8th Street, Suite 501
Cincinnati, OH 45203-1601
(513) 381-1959

Focus on quality circles, self-managing teams, union-management committees, and other aspects of employee involvement. Conferences, library and selected research service, *Journal for Quality and Participation* newsletter, resource guide, and local chapters.

American Society for Quality Control (ASQC)

310 West Wisconsin Avenue
Milwaukee, WI 53203
(414) 272-8575

Conferences, educational courses, seminars, *Quality Review* magazine, and *Quality Progress* journal, book service, professional certification, technical divisions, committees, and local chapters.

Quality and Productivity Management Association (QPMA)

300 Martingale Road, Suite 230
Schaumburg, IL 60173
(708) 619-2909

Network of North American quality and productivity coordinators, operating managers and staff managers, conferences, workshops, *Commitment Plus* newsletter, resources guide, and local chapters.

JOURNALS, PERIODICALS, AND NEWSLETTERS

Commitment Plus

Newsletter, monthly
Quality and Productivity Management Association (QPMA)
300 Martingale Road, Suite 230
Schaumburg, IL 60173
(708) 619-2909

Journal for Quality and Participation

Journal, six times/year
Association for Quality and Participation (AQP)
801-B West 8th Street, Suite 501
Cincinnati, OH 45203-1601
(513) 381-1959

Quality

Magazine, monthly
Hitchcock Publishing Co.
191 S. Gary Avenue
Carol Stream, IL 60188
(312) 655-1000

Quality Digest

Magazine, monthly
QCI International
1425 Vista Way
Red Bluff, CA 96080
(916) 527-8875

Quality Progress

Magazine, monthly
American Society for Quality Control (ASQC)
310 West Wisconsin Avenue
Milwaukee, WI 53203
(414) 272-8575

SOURCES FOR ADDITIONAL REFERENCE BOOKS

George Washington University Continuing Engineering Education Program

School of Engineering and Applied Science
Attention: Books and Videos
Washington, D.C. 20052
(800) 424-9773

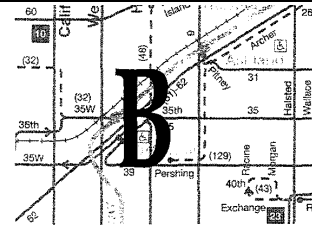
Productivity Press

Productivity, Inc.
P.O. Box 3007
Cambridge, MA 02140
(800) 274-9911

Quality Press

American Society for Quality Control (ASQC)
310 West Wisconsin Avenue
Milwaukee, WI 53203
(800) 952-6587

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QUALITY GLOSSARY

appraisal costs

The costs associated with inspecting the product to ensure that it meets the customer's (either internal or external) needs and requirements.

approach

One of the three evaluative dimensions used in Baldrige scoring, "approach" refers to the methods a company uses to achieve the purpose stated in the criteria. Some specific components of the approach concept are the degree to which it is systematic, integrated, consistently applied, and prevention-based.

acceptable quality level (AQL)

A concept used with sampling procedures applied to arms-and-ammunition suppliers during World War II, AQL is the poorest quality that a supplier can provide and still be considered "acceptable" or satisfactory. The concept—that some errors or defects are normal—is the antithesis of "zero defects," which holds that the only allowable standard for quality is error-free work.

audit

An assessment to determine the extent to which certain standards or requirements have been met, usually conducted independently of personnel responsible for implementing the standards or requirements.

Baldrige Award

See Malcolm Baldrige National Quality Award.

benchmarking

The practice of setting operating targets for a particular function by selecting the top performance levels, either within or outside a company's own industry. In a broader sense, benchmarking involves searching around the world for new ideas and best practices for the improvement of processes, products, and services.

best of class

When overall performance, in terms of effectiveness, efficiency, and adaptability, is superior to all comparables.

brainstorming

A technique used by a group of people for thought generation. The aim is to elicit as many ideas as possible within a given timeframe.

catchball

In policy deployment, extensive communication across management levels when setting annual objectives. The analogy to tossing a ball back and forth emphasizes the nature of the interaction.

cause

An established reason for the existence of a defect.

common cause

A source of variation in the process output that is inherent to the process and will affect all the individual results or values of process output.

companywide quality control (CWQC)

An expression used widely in Japan, CWQC means the application of quality principles to all processes in a company and the involvement of all employees at all levels in the quality-improvement process. The concepts of continuous improvement and customer satisfaction are also embedded in the approach. CWQC is the equivalent of "total quality management (TQM)" in the United States, where the term "management" has roughly the same meaning as the word "control" in Japan.

conjoint analysis

Also called "tradeoff analysis," conjoint analysis is a method for providing a quantitative measure of the relative importance of one product or service over another. In performing this type of analysis, customers are asked to make tradeoff judgments: Is one feature desirable enough to sacrifice another? Conjoint analysis is particularly useful in situations where customer preferences are in conflict and where the problem is to develop a compromise set of attributes.

control

A term applied to the management of processes indicating that quality requirements, standards, or goals are being met and that the output of the process is predictable.

correction

The totality of actions to minimize or remove variations and their causes.

corrective action

The implementation of effective solutions that result in the elimination of identified product, service, and process problems.

cost of poor quality

The overall financial loss to the business due to quality problems; the cost of poor quality includes all costs of rework, lost value, and other forms of waste that might be prevented through quality methods.

cost of quality

The sum of the cost of prevention, appraisal, and failure. The key financial measurement tool that ties process control and process optimization into a total process-management effort. It can be used both as an indicator and a signal for variation (more often, for patterns of variation), as well as a measure of productivity and efficiency.

cross-functional process

A process spanning organizational boundaries and involving work groups and people who do not normally interact.

cross-functional teams

Teams similar to quality teams but whose members are from several work units that interface with one another. These teams are particularly useful when work units are dependent upon one another for materials, information, etc.

culture

A prevailing pattern of activities, interactions, norms, sentiments, beliefs, attitudes, values, and products in an organization.

customer

The recipient or beneficiary of the outputs of your work efforts or the purchaser of your products and services. May be either internal or external to the organization, and must be satisfied with the outputs of your work efforts.

customer expectations

Customer perceptions of the value they will receive from the purchase of a product or service. Customers form expectations by analyzing available information, which may include experience, word-of-mouth, and advertising and sales promises.

customer, external

The purchaser of a product or service.

customer, internal

A downstream internal operation that depends on outputs or results of a given process, or an employee of the business who depends on these outputs or results.

customer satisfaction

The degree to which a customer's experience with a product or service meets customer expectations for that product or service.

customer service process

A business process related to selling, delivering, or otherwise supporting primary products and services.

customer/supplier model

A representation of tasks and work flows in terms of a process, its customers, and its suppliers, linked through information flows in the form of requirements and feedback.

cycle time

The amount of time it takes to complete a particular task. Shortening the cycle times of critical functions within a company is usually a source of competitive advantage and a key quality-improvement objective.

data

Information or a set of facts presented in descriptive form. There are two basic kinds of data: measured (also known as variable data) and counted (also known as attribute data).

defect

Any state of nonconformance to requirements.

Deming Prize

In 1950, W. Edwards Deming was invited to Japan by the Union of Japanese Scientists and Engineers (JUSE) to lecture on the applicability of using quality control in manufacturing companies. The impact of Deming's teaching was widespread and swift to take root. In 1951, JUSE instituted the Deming Prize to honor Deming for his friendship and achievements in industrial quality control. Today, Japanese companies wishing to improve the level of quality within their organization compete for the Deming Prize, not only to achieve the honor and prestige of winning, but to make the improvements that come from implementing his quality principles.

deployment

One of the evaluative dimensions used in Baldrige scoring, "deployment" refers to the extent to which a company's approaches are applied in all relevant areas and activities. For example, reward-and-recognition programs need to be applied to all categories of employees, from hourly workers to top managers.

descriptors

Descriptors are relatively specific methods, organizational features, or system/process characteristics.

differentiation

The unique value of a product or service that distinguishes it from competing products or services.

effectiveness

How closely an organization's output meets its goal and/or meets the customer's requirements.

efficiency

Production of required output at perceived minimum cost. It is measured by the ratio of the quantity of resources expected or planned to be consumed in meeting customer requirements to the resources actually consumed.

employee involvement/quality of work life

Program for employee participation aimed at improving customer satisfaction, productivity, and employee satisfaction. Union and management work together to foster this program.

empowerment

Investment in employees of authority and responsibility for making decisions and taking actions, particularly to satisfy customers and improve processes. Empowerment requires that employees be enabled through training, information, resources, and advice.

external failure costs

The costs incurred when an external customer receives a defective product.

failure mode and effect analysis (FMEA)

A technique for systematically reviewing the ways in which a process, product, or service can fail and the impact such failures could have on customers, employees, or other processes. Using this analysis, quality engineers can predict field-failure rates, design recovery systems, and estimate the need for additional parts or personnel.

feedback

Information from a customer about how process output meets the needs of process customers.

feedback loop

A system for communicating information about the performance of processes, products, or services. Feedback loops are essential for continuous improvement.

firefighting

Remedial approach to process problems, focusing on "fixing" rather than prevention.

fishbone diagrams

A diagram that depicts the characteristics of a problem or process and the factors or root causes that contribute to them.

force field analysis

A technique involving the identification of forces "for" and "against" a certain course of action. The nominal group technique could be used in conjunction with force field analysis. The group might prioritize the forces for and against by assessing their magnitude and probability of occurrence. The group might then develop an action plan to minimize the forces against and maximize the forces for.

frequency distribution

Of a discrete variable, this is the count of the number of occurrences of individual values over a given range. Of a continuous variable, this is the count of cases that lie between certain predetermined limits over the range of values the variable may assume.

functional administrative control technique

A tool designed to improve performance through a process combining time management and value engineering. The process involves breaking activities down into functions and establishing action teams to target and solve problems in each function.

functional organization

An organization responsible for one of the major organizational functions such as marketing, sales, design, manufacturing, and distribution.

gainsharing

A reward system that shares productivity gains between owners and employees. Gainsharing is generally used to provide incentive for group efforts toward improvement.

goal

A statement of attainment/achievement that one proposes to accomplish or attain with an implication of sustained effort and energy directed to it over the long term.

guideline

A suggested practice that is not mandatory in programs intended to comply with a standard.

Hoshin Planning

See policy deployment.

hypothesis

An assertion made about the value of some parameter of a population.

indicators

Measurable characteristics of products, services, and processes that best represent quality and customer satisfaction.

input

Materials, energy, or information required to complete the activities necessary to produce a specified output (work product).

ISO 9000

International Organization for Standardization 9000 series standards. Supplier quality system standards representing a consensus within the international quality community.

internal failure costs

The costs generated by defects found within the enterprise prior to the product reaching the external customer.

just-in-time (JIT) inventory management

Approach to achieving and maintaining minimal in-process inventory. The approach includes application of total quality control to eliminate quality problems as in-process inventory is being reduced.

kaizen

A Japanese expression referring to continuous improvement in all phases of business.

key business process

Process designated by management as critical to customer satisfaction, competitive effectiveness, or the achievement of strategic goals. Key business processes are generally cross-functional, spanning major functional organizations such as marketing, design, manufacturing, and distribution.

leadership

Communicating a clear purpose and vision and enabling and inspiring people to develop commitment to help in achieving that purpose. Leaders provide a strategy, clear expectations of others, support, personal involvement and resolve, and reinforcement of values needed to achieve the purpose.

lessons learned

A phrase coined by Joseph Juran to describe a structured approach to analyzing past experience in an endeavor and applying the results of that analysis to improving the quality of future efforts.

linkages

Interactions among the tasks in a process that determine how effectively the tasks coordinate, share information, and provide mutual support toward meeting common process objectives.

Malcolm Baldrige National Quality Award

United States national quality award recognizing companies for leadership in quality. The award is managed by the National Institute of Standards and Technology, U.S. Department of Commerce. Award criteria also serve as the standard for the AT&T Chairman's Quality Award and as a basis for self-evaluation of quality systems.

management by objective (MBO)

A business planning approach in which each employee works with his or her manager to set annual objectives. Employee performance is evaluated based on the extent to which objectives are met.

mean time between failures (MTBF)

The average time between successive failures of a given product.

measurement

The act or process of measuring to compare results to requirements. A quantitative estimate of performance.

natural work team

A group of people who work together on a regular basis, such as a manager and the people who report to him or her.

need

A lack of something requisite, desired, or useful; a condition requiring provision or relief. Usually expressed by users or customers.

nominal group technique

A tool for idea generation, problem-solving, and defines mission, key result areas, performance measures, and goals/objectives.

normative performance measurement technique

Incorporates structured group processes so that work groups can design measurement systems suited for their own needs. This approach considers behavioral consequences of measurement to foster acceptance of measurement effort.

objective

A statement of the desired result to be achieved within a specified time. By definition, an objective always has an associated schedule.

objectives

Verifiable improvement targets for processes, suppliers, organizations, and people.

output

The specified end result. Required by the recipient.

outputs

Materials or information provided to others (internal or external customers).

perceived quality

A firm's market reputation for continuing excellence of products and services and for customer satisfaction; the firm's good will among customers.

pareto analysis

A system of analysis based on the principle that, in any phenomenon, relatively few factors account for the majority of effects. Juran uses the phrase "vital few" to suggest that it is more efficient and less costly to concentrate on the most important sources or types of failures, customers, and so on.

performance

A term used both as an attribute of the work product itself and as a general process characteristic. The broad performance characteristics that are of interest to management are quality (effectiveness), cost (efficiency), and schedule. Performance is the highly effective common measurement that links the quality of the work product to efficiency and productivity.

plan

A specified course of action designed to attain a stated objective.

policy

A statement of principles and beliefs, or a settled course, adopted to guide the overall management of affairs in support of a stated aim or goal. It is mostly related to fundamental conduct and usually defines a general framework within which other business and management actions are carried out.

policy deployment

A discipline approach to business-wide planning and implementation; involves setting long-term goals and annual priorities, deploying priorities through the management structure for refinement into detailed objectives, developing implementation plans, and tracking regular progress and annual results.

population

A large collection of items (e.g., product observations, data) about certain characteristics of interest.

prevention

Activities and practices aimed at anticipating and removing sources of potential problems; for example, training or supplier qualification.

problem

A question or situation proposed for solution. The result of not conforming to requirements, which can create a potential task resulting from the existence of defects.

process

The system of tasks, work flows, information flows, and other interdependencies that produce some specific outputs or results. How work is done, how outputs or results are achieved, and how value is provided to the business or customer.

process capability

The ability of a process to meet operating goals or internal- or external-customer requirements. "Capability" may differ from actual performance due to "special causes" — conditions or events resulting purely from chance and not the production system itself.

process control

Activities undertaken to acquire and use information during process execution to ensure — with a reasonable degree of confidence — that the process will meet its requirements and that these requirements will continue to reflect the needs of process customers.

process flow analysis

A technique for identification and analysis of key processes and for areas and methods of possible improvement. It is particularly useful for roadblock removal.

process flow diagramming

A visual, systematic way of examining a process by diagramming all its inputs, outputs, and activities.

process improvement

The set of activities employed to detect and remove common causes of variation in order to improve process capability. Process improvement leads to quality improvement.

process management

Activities aimed at process planning, process control, identifying improvement opportunities, and initiating improvement. Planning involves setting process requirements, characterizing the process, establishing in-process and supplier requirements, and planning for control.

process optimization

The major aspect of process management that concerns itself with the efficiency and productivity of the process, that is, with economic factors.

process owner

A designated person within the process who has the authority to manage the process and responsibility for its overall performance.

process performance

A measure of how effectively and efficiently a process satisfies customer requirements

process review

An objective assessment of how well the methodology has been applied to your process. Emphasizes the potential for long-term process results rather than the actual results achieved.

productivity

Refers both to the efficiency of tasks or operations and to their effectiveness in meeting the needs of other internal operations; some productivity-related measures include cost of poor quality and unit output costs.

project

A process executed over time, rather than repeatedly.

quality

The extent to which products and services produced meet or exceed customer requirements. Customers can be internal as well as external to the organizational system (e.g., products or services may flow to the person at the next desk or work area rather than to people outside of the immediate organization). The Federal Quality Institute defines quality as meeting the customer requirements the first time, every time. The Department of Defense (DoD) defines quality as conformance to a set of customer requirements that, if met, result in a product that is fit for its intended use.

quality approach

Overall strategy for managing quality in an organization.

quality assurance (QA)

A phase in the evolution of the quality discipline, QA differed from statistical quality control, its predecessor, in that all functional groups, not just engineers and workers on the shop floor, were involved in the quality effort. However, QA is more narrowly focused than its successor, total quality management (TQM), which emphasizes senior-executive involvement, the management of quality for competitive advantage, and a strong customer orientation.

quality circles

A group of workers and their supervisors who voluntarily meet to identify and solve job-related problems. Structured processes are used by the group to accomplish the task.

quality consultant

A person with expertise in quality-related methods and tools who advises both individuals and teams.

quality council

Leadership team normally composed of senior labor and management that provides direction and support for continuous organizational improvement.

quality function deployment (QFD)

A disciplined approach to solving quality problems before the design phase of a product. The foundation of QFD is the belief that products should be designed to reflect customer desires; therefore, marketers, design engineers, and manufacturing personnel must work closely together from the beginning to ensure a successful product. The approach involves finding out what features are important to customers, ranking them in importance, identifying conflicts, and translating them into engineering specifications.

quality manager

Individual appointed to assist the quality council in managing for quality and also to coordinate overall quality support for the organization.

quality of working life

The extent to which the organizational culture provides employees with information, knowledge, authority, and rewards to enable them to perform safely and effectively, be compensated equitably, and maintain a sense of human dignity.

quality professionals

Part- or full-time quality experts on quality methods and tools who provide quality consulting and training for an organization.

quality system

Everything associated with implementation of the quality approach, including responsibilities, plans, activities, behaviors, and incentives.

quality system audit

Systematic assessment of the quality system against a standard such as the Baldrige Award criteria or ISO 9000 series of standards.

quality teams

Also referred to as Performance Action Teams or Quality Improvement Teams. They might be composed of volunteers who meet regularly to review progress toward goal attainment, plan for changes, decide upon corrective actions, etc. Members are usually from the same work unit.

range

The difference between the maximum and the minimum value of data in a sample.

recognition

Public or private acknowledgment — other than compensation or promotion — of significant achievement or effort.

recovery

The actions taken by an organization, particularly its front-line employees, in response to unexpected customer problems such as an unusual request or the inconvenience caused by a canceled airplane flight. Less severe than a crisis, recovery situations can result from an error committed by the company or the customer or from an uncontrollable event like the weather.

reengineering

A method for systematically overhauling or revamping an entire process, organization, or function.

reliability

The probability that a product entity will perform its specified function under specified conditions, without failure, for a specified period of time.

reliability engineering

A broad-based discipline for ensuring better product performance by predicting more accurately when and under what conditions a product can fail. Based on the results of such an analysis, engineers can improve designs, set operating limits for equipment, and create backups in case of system failure. Reliability programs also incorporate feedback loops for analyzing product performance in the field and, in particular, product failures.

requirement

A formal statement of need and the expected manner in which it is met.

requirements

What a process should achieve in terms of output characteristics, costs, timeliness; determined based on customer needs, competitor performance, and overall business direction or strategy.

reward

Salary increases, bonuses, and promotions given on the basis of performance.

roadblock identification analysis

A tool that focuses upon identifying roadblocks to performance improvement and/or problems that are causing the group to be less productive than it could be. This tool utilizes the nominal group technique to identify and prioritize performance roadblocks. Action teams are formed to analyze barriers and develop proposals to remove roadblocks. The proposals are implemented, tracked, and evaluated.

root cause (cause-and-effect) analysis

A deductive approach to analyzing problems by working backward from the "effect" to the cause or causes. One of so-called "Seven Quality Tools," root-cause analysis is often facilitated using a "fishbone diagram" in which all the inputs to the process are arrayed in visual format like the bones of a fish.

sample

A finite number of items taken from a population.

Scanlon committees

Committees composed of managers, supervisors, and employees who work together to implement a philosophy of management/labor cooperation that is believed to enhance productivity. There are a number of principles and techniques involved, with employee participation being a major component.

service

A process or operation directed at fulfilling a need or demand, rather than delivering a physical product. Examples of service processes include maintenance, purchasing, market research, and training.

simulation

The technique of observing and manipulating an artificial mechanism (model) that represents a real-world process that, for technical or economical reasons, is not suitable or available for direct experimentation.

simultaneous engineering (SE)

Also known as concurrent engineering, SE is a general approach to production in which concept development, design, manufacturing, and marketing are carried out in unison. In contrast to a linear, sequential approach in which communication between functions is poor and the production process is marred by rework, scrap, poor quality, and frustration, simultaneous engineering maximizes communication, reduces errors, and shortens cycle times.

six-sigma

A statistical way of measuring quality, six-sigma is equivalent to 3.4 defects per million units of output — a virtually defect-free level of performance. The ambitious, companywide goal of "six-sigma quality" has been adopted, most notably, by Motorola, a 1988 Baldrige Award winner.

special cause

An "abnormal" source of variation that does not arise from the production process itself and is extraneous and unpredictable.

specification

A document containing a detailed description or enumeration of particulars. Formal description of a work product and the intended manner of providing it (the provider's view of the work product).

standard deviation

A parameter describing the spread of the process output, denoted by the Greek letter sigma. The positive square root of the variance.

statistic

Any parameter that can be determined on the basis of the quantitative characteristics of a sample. A descriptive statistic is a computed measure of some property of a set of values, making possible a definitive statement about the meaning of the collected data. An inferential statistic indicates the confidence that can be placed in any statement regarding its expected accuracy, the range of its applicability, and the probability of its being true. Consequently, decisions can be based on inferential statistics.

statistical process control (SPC)

Based on the principle that no two units of output of a process are likely to have the exact same specifications, SPC involves the mathematical determination of acceptable limits of variation. Graphs are used by workers to plot output variables and visually determine when a process is "in" or "out of" control.

statistical control

The status of a process from which all special causes of variation have been removed and only common causes remain. Such a process is also said to be stable.

statistical estimation

The analysis of a sample parameter in order to predict the values of the corresponding population parameter.

statistical methods

The application of the theory of probability to problems of variation. There are two groups of statistical methods. Basic statistical methods are relatively simple problem-solving tools and techniques, such as control charts, capability analysis, data summarization and analysis, and statistical inference. Advanced statistical methods are more sophisticated specialized techniques of statistical analysis, such as the design of experiments, regression and correlation analysis, and the analyses of variance.

statistical quality control (SQC)

A relatively early development in the evolution of the quality discipline, SQC relies on statistical concepts and tools (e.g., sampling techniques) to control production quality. SQC techniques are used in total quality management, although the emphasis in TQM is on "building quality in," rather than error detection.

statistics

The branch of applied mathematics that describes and analyzes empirical observations for the purpose of predicting certain events in order to make decisions in the face of uncertainty. Statistics, in turn, are based on the theory of probability. The two together provide the abstraction for the mathematical model underlying the study of problems involving uncertainty.

strategy

A broad course of action, chosen from a number of alternatives, to accomplish a goal.

stretch goal

An ambitious, usually long-term quality goal that requires extraordinary effort, innovation, and planning to achieve.

subprocesses

The internal processes that make up a process.

supplier

Source of material and/or information input to a process, which may be internal or external to the company, organization, or group.

team building

A process of developing and maintaining a group of people who are working toward a common goal. Team building usually focuses on one or more of the following objectives: (1) clarifying role expectations and obligations of team members, (2) improving superior-subordinate or peer relationships, (3) improving problem solving, decision making, resource utilization, or planning activities, (4) reducing conflict, and (5) improving organizational climate.

timeliness

The promptness with which quality products and services are delivered, relative to customer expectations.

total quality control (TQC)

An expression coined by Armand Feigenbaum, TQC involves the application of quality principles in all processes and at all levels of a company.

total quality management (TQM)

TQM, as embodied in the Baldrige criteria, represents the latest phase in the evolution of the quality discipline. Distinctive features are a strong and pervasive customer orientation and a view toward managing quality for competitive advantage. The term "TQM" is roughly equivalent to TQC and CWQC in Japan, where the word "control" has the same connotations as "management" in this country.

transactional analysis

A process that helps people change to be more effective on the job and can also help organizations to change. The process involves several exercises that help identify organizational scripts and games that people may be playing. The results help point the way toward change.

transfer to operations

An activity or series of activities in which operating personnel are trained in the performance of a new manufacturing or service-delivery process.

value

The extent to which a product or service meets a customer's needs or wants, which can be measured (though not easily) in willingness to pay. Also, the benefit, or utility, a customer receives from a product or service.

variable

A data item that takes on values within some range with a certain frequency or pattern. Variables may be discrete, that is, limited in value to integer quantities (for example, the number of bolts produced in a manufacturing process). Discrete variables relate to attribute data. Variables may also be continuous, that is, measured to any desired degree of accuracy (for example, the diameter of a shaft). Continuous variables relate to variables data.

variance

In quality management terminology, any nonconformance to specifications. In statistics, it is the square of the standard deviation.

vision

The desired future state of business.

world-class

Ranking among the best across all comparable products, services, or processes (not just direct competitors) in terms of critical performance or features.

zero defects

An approach to quality improvement, based primarily upon increasing worker motivation and attentiveness, in which the only acceptable quality standard is defect-free output or service execution.

THE TRANSPORTATION RESEARCH BOARD is a unit of the National Research Council, which serves the National Academy of Sciences and the National Academy of Engineering. It evolved in 1974 from the Highway Research Board which was established in 1920. The TRB incorporates all former HRB activities and also performs additional functions under a broader scope involving all modes of transportation and the interactions of transportation with society. The Board's purpose is to stimulate research concerning the nature and performance of transportation systems, to disseminate information that the research produces, and to encourage the application of appropriate research findings. The Board's program is carried out by more than 270 committees, task forces, and panels composed of more than 3,300 administrators, engineers, social scientists, attorneys, educators, and others concerned with transportation; they serve without compensation. The program is supported by state transportation and highway departments, the modal administrations of the U.S. Department of Transportation, the Association of American Railroads, the National Highway Traffic Safety Administration, and other organizations and individuals interested in the development of transportation.

The National Academy of Sciences is a private, nonprofit, self-perpetuating society of distinguished scholars engaged in scientific and engineering research, dedicated to the furtherance of science and technology and to their use for the general welfare. Upon the authority of the charter granted to it by the Congress in 1863, the Academy has a mandate that requires it to advise the federal government on scientific and technical matters. Dr. Bruce M. Alberts is president of the National Academy of Sciences.

The National Academy of Engineering was established in 1964, under the charter of the National Academy of Sciences, as a parallel organization of outstanding engineers. It is autonomous in its administration and in the selection of its members, sharing with the National Academy of Sciences the responsibility for advising the federal government. The National Academy of Engineering also sponsors engineering programs aimed at meeting national needs, encourages education and research and recognizes the superior achievements of engineers. Dr. Harold Liebowitz is president of the National Academy of Engineering.

The Institute of Medicine was established in 1970 by the National Academy of Sciences to secure the services of eminent members of appropriate professions in the examination of policy matters pertaining to the health of the public. The Institute acts under the responsibility given to the National Academy of Sciences by its congressional charter to be an adviser to the federal government and, upon its own initiative, to identify issues of medical care, research, and education. Dr. Kenneth I. Shine is president of the Institute of Medicine.

The National Research Council was organized by the National Academy of Sciences in 1916 to associate the broad community of science and technology with the Academy's purpose of furthering knowledge and advising the federal government. Functioning in accordance with general policies determined by the Academy, the Council has become the principal operating agency of both the National Academy of Sciences and the National Academy of Engineering in providing services to the government, the public, and the scientific and engineering communities. The Council is administered jointly by both Academies and the Institute of Medicine. Dr. Bruce M. Alberts and Dr. Harold Liebowitz are chairman and vice chairman, respectively, of the National Research Council.