

IV.F

Quality

CHAPTER 66

Total Quality Leadership

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1. INTRODUCTION AND KEY DEFINITIONS

Global competition and customer demands for competitive quality products and services require that both public- and private-sector organizations implement results-driven continuous performance improvement approaches and systems. According to Hiam (1993), between 75 and 80% of large companies adopted quality management approaches within the last decade. Malhotra et al. (1994) also point out that quality continues to be a top-ranked strategic issue among top manufacturing executives.

The terms *total quality* (TQ), *total quality management* (TQM), *total quality improvement process* (TQIP), and *total quality leadership* (TQL) have been used interchangeably in the literature and in organizations embarking upon a comprehensive quality-driven performance improvement process. Evans (1992) defines total quality as a people-focused management system that aims at continual increase of customer satisfaction at continual lower real cost. Total quality is a total systems approach (not a separate area or program) and an integral part of high-level strategy; it works horizontally across functions and departments; involves all employees, top to bottom; and extends backwards and forwards to include the supplier and the customer chains. Practitioners and researchers agree that when all the elements of total quality are fully implemented with leadership support and commitment, there are bound to be positive business results. Edosomwan (1994, 1998a) defines total quality lead-

ership as a systematic, continuous improvement process that involves measuring, planning, evaluating, and improving all aspects of an organization's performance. It involves a customer- and people-driven process that is led by senior management vision and commitment, with full participation from organizational stakeholders to produce error- and defect-free products and services for end users. The TQL process utilizes quantitative, qualitative, behavioral, technological, technical, and managerial tools and techniques to improve organizational structures, work processes, policies, procedures, products, and service-delivery systems. Edosomwan (1994) points out that total quality leadership encompasses all aspects of the total quality management and improvement process. It is also important to point out that the definition of quality varies quite widely. As shown in Table 1, Edosomwan (1998d) documented 10 approaches and major definitions of quality appearing in the literature.

Various critical dimensions of TQM, TQL, and TQIP are identified in the literature. For example, Whitney and Pavett (1998) note that management support for the improvement process is the genesis, without which little else will happen. Almaraz (1994), Edosomwan (1990, 1998a), Crosby (1979), Juran (1974), Deming (1981), Hackman and Wageman (1995), and Westphal et al. (1997) discuss other important dimensions that are critical to the successful implementation of the total quality

TABLE 1 Ten Key Approaches and Major Definitions of Quality

Approaches	Authors	Definitions
Customer based	Juran 1974	"Quality is fitness for use."
	Edwards 1968	"Quality consists of the capacity to satisfy wants."
	Edosomwan 1988	"Quality is conformance to customer requirements."
Product based	Crosby 1979	"Quality is conformance to requirements."
Performance based	Deming 1981	"Quality is durability of product."
	Edosomwan 1999	"Quality is a measure of product and service delivery system performance."
Management based	Deming 1981	"Eighty percent of the quality problems are caused by organization management system."
	Edosomwan 1998d	"The quality of management drives performance."
System based	JISC 1981	"[Quality is] a system of means to economically produce goods or services which satisfies customers requirements."
Transcendent	Pirsig 1974	"Quality is neither mind nor matter, but a third entity independent of the two, even though quality cannot be defined, you know what it is."
Process based	Deming 1982	"Quality is controlling process variation."
	Edosomwan 1994	"Quality is a measure of process performance."
Value based	Feigenbaum 1983	"Quality means best of certain conditions: (a) the actual use, and (b) the selling price."
Prevention based	Edosomwan 1994	"Quality is preventing errors and defects."
Technology and culture based	Sashkin and Kiser 1993	"Quality means that the organization's culture is defined by and supports the constant attainment of customer satisfaction through an integrated system of tools, techniques and training."

Source: Edosomwan 1998d.

improvement process. These dimensions include, but are not limited to: (1) management practices, (2) customer focus, (3) supplier quality and performance, (4) employee development and training, (5) performance incentives, (6) technology, (7) cultural and relationship factors, (8) workforce attitude, (9) process management, (10) performance measures, (11) strategic planning, (12) problem-solving process, (13) product and service-delivery systems, and (14) labor and management relations. However, implementing the total quality leadership process definitely requires the commitment, support, and dedication of the organization's senior managers and leaders.

2. TOTAL QUALITY LEADERSHIP SYSTEM ELEMENTS

According to Almaraz (1994), implementing the total quality improvement elements and process requires a transformation in the organization's culture, processes, and strategic priorities and in individual attitudes, beliefs, work ethics, and behavior. Edosomwan (1995, 1998a) identifies four total quality leadership (TQL) system areas: the management system, the social system, the technical system, and the behavioral system (see Figure 1).

1. *The management system* encompasses the way that policies, procedures, practices, protocols, and directives are established, enforced, and maintained. The leadership systems of the organization set the tone and vision and provide indicators of what should be done, how it should be done, and what should be accomplished. The management system carries into effect strategies, processes, and project management, and it encompasses the vision, mission, and values of the organization.
2. *The social system* has a significant impact on motivation and the ability to implement new ideas; it addresses organizational culture, structure, rewards, teamwork, values, and the creativity of individuals and groups. The social system is influenced by the values of the founders, leaders, families, peers, and supervisors, as well as group behaviors. Before transformation, the state of the organization is usually influenced by rigid rules and lack of focus on customer requirements, constancy of purpose, and continuous improvement.
3. *The technical system* includes the tools, techniques, and mechanisms necessary to produce excellent products and services. The technical system also involves work processes, technol-

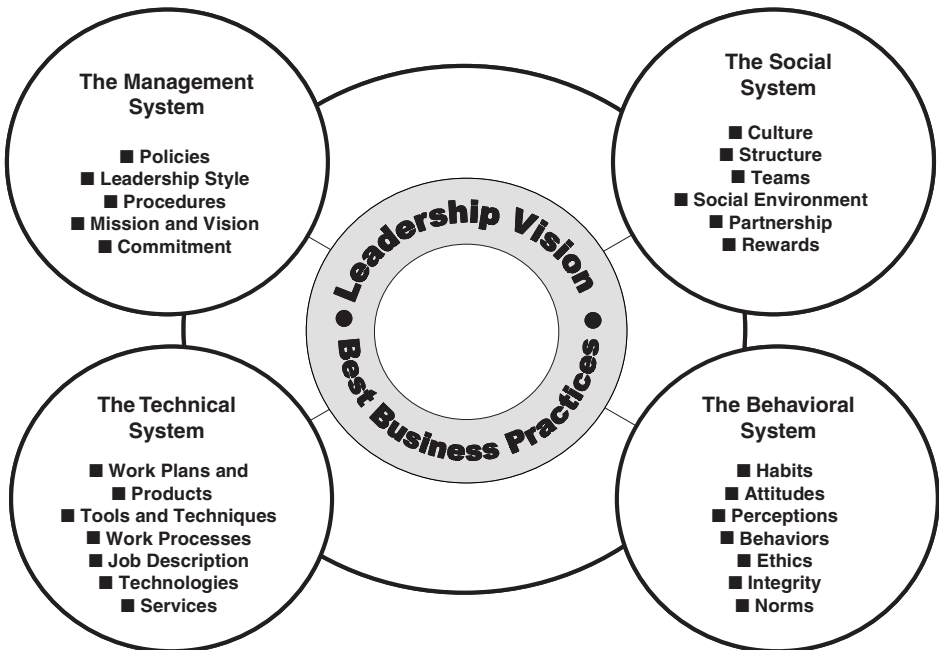


Figure 1 Total Quality Leadership System Areas (From Edosomwan 1995).

ogies, and systems that are utilized in transforming organizational inputs to outputs and outcomes. The job and task descriptions are part of this system. The technical system pertains to measures, which serve as the basis for improvement and planning.

4. *The behavioral system* relates to the fundamentals of the human side of quality, as characterized by the habits, attitudes, work patterns, and behaviors of individuals and groups. Through modification of the elements in the behavioral system, it is possible to implement changes that can lead to significant breakthrough in performance. The behavioral elements are often difficult to change, and when a change is made, it positively influences the speed of organizational process transformation.

3. TOTAL QUALITY LEADERSHIP: EIGHT PILLARS OF QUALITY

Edosomwan (1995, 1998a) identifies eight pillars of quality, as shown in Figure 2 and described below. The eight pillars of quality must be continuously improved throughout the TQL process.

1. *Quality of management* pertains to the quality of organizational policies, procedures, values, and the resource-allocation system. It also addresses the quality of leadership and management decisions, supervision, and guidance provided to the workforce as it relates to the delivery of products and services.
2. *Personal quality* pertains to the quality of personal attributes, trust, and characteristics that enable individuals to maintain excellent work ethics and performance. The critical factors in this area include personal attitude, skills, abilities, work habits, behaviors, integrity, trustworthiness, loyalty, dedication, and commitment to the successful achievement of organizational and personal mission and priorities.
3. *Quality of service* involves several tangible and intangible factors, such as the degree of courtesy provided to internal and external customers. It also includes other factors, such as the appearance of the products and services being offered, responsiveness, and the extent to which customers receive adequate value-added service.
4. *Process quality* pertains to the quality of primary, secondary, and auxiliary work processes that are required to transform organizational inputs to outputs and outcomes. Primary work pro-

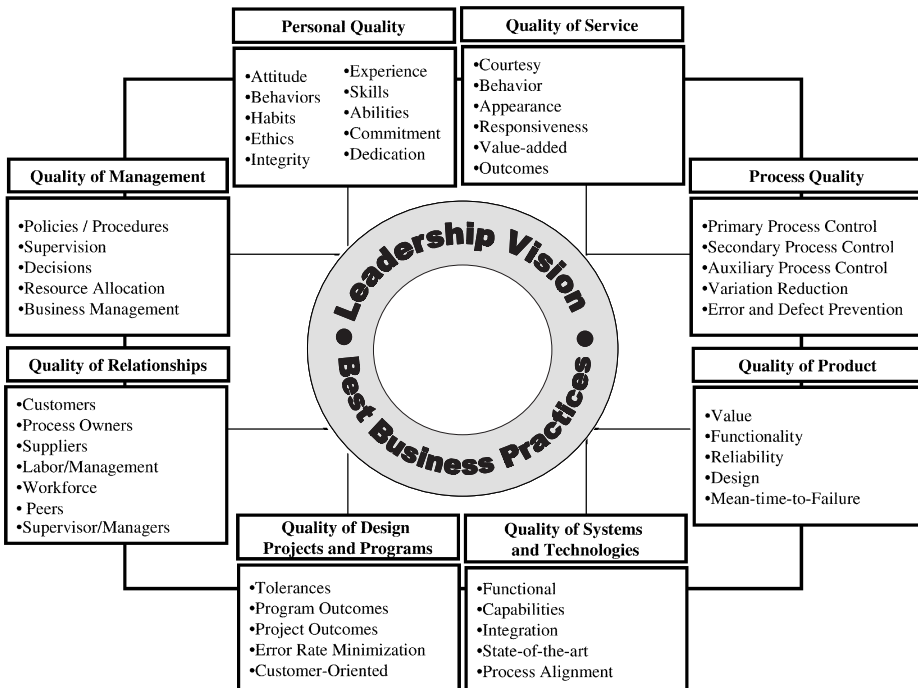


Figure 2 Eight Pillars of Quality (From Edosomwan 1998d).

cesses have impact on the external customers, while secondary processes have impact on the internal customers. Auxiliary work processes have impact at the job and task levels. Process quality also pertains to how well variation in process variables is managed, controlled, and improved continuously to ensure that the final products and services delivered to the end users are error and defect free.

5. *Quality of relationships* pertains to the quality of interaction and relationship among suppliers, process owners, customers, teams, work units, labor and management, and functional business areas. It also involves the quality of outputs and outcomes produced as a result of a defined relationship among suppliers, process owners and customers.
6. *Quality of design projects and programs* pertains to the quality of products and services at the design, program and project management, and delivery stages. It takes into account design specifications, tolerances, and quality of task outputs and outcomes involved in the design and development cycle of a product or service.
7. *Quality of systems and technologies* pertains to the functional quality of production and service delivery systems and technologies. It addresses the quality of the technology life cycle as well as the operational measures of system and technology performance. Measures such as mean-time-to-design, mean-time-to-failure, mean-time-to-service and -repair, and reliability are utilized to assess the quality of systems and technologies. It also addresses how well state-of-the-art systems and technologies are integrated to deliver error- and defect-free products and services to end users.

TABLE 2 Traditional Organizations vs. Customer-Driven Organizations

Area	Traditional Organizations	Customer-driven Organizations
Product and Service Planning	<ul style="list-style-type: none"> ■ Short-term focus ■ Reactionary management ■ Management by objectives 	<ul style="list-style-type: none"> ■ Long-term focus ■ Prevention-based management ■ Customer-driven strategic planning process
Measures of Performance	<ul style="list-style-type: none"> ■ Bottom-line financial results ■ Quick returns on investment 	<ul style="list-style-type: none"> ■ Customer satisfaction ■ Market share and profitability ■ Quality and total productivity
Attitudes Toward Customers	<ul style="list-style-type: none"> ■ Customers are irrational ■ Customers create problems ■ Customer concerns are bottleneck to profitability 	<ul style="list-style-type: none"> ■ Identify and respond to the voice of the customer ■ Professional treatment and attention to customer needs
Quality of Products and Services	<ul style="list-style-type: none"> ■ Provided according to organizational requirements 	<ul style="list-style-type: none"> ■ Provided according to customer needs and priorities
Marketing Focus	<ul style="list-style-type: none"> ■ Seller's market ■ Careless about loss of customers 	<ul style="list-style-type: none"> ■ Long-term focus ■ Prevention-based management ■ Customer-driven strategic planning process
Process Management Approach	<ul style="list-style-type: none"> ■ Focus on error and defect detection and risk management 	<ul style="list-style-type: none"> ■ Focus on error and defect prevention and total process management
Product and Service Delivery Attitude	<ul style="list-style-type: none"> ■ It is fine for customers to wait for product and services 	<ul style="list-style-type: none"> ■ It is best to provide fast-time-to-market products and services just-in-time
People Orientation	<ul style="list-style-type: none"> ■ People are the source of problems and are burdensome to the organization 	<ul style="list-style-type: none"> ■ People are the greatest asset and resource to the organization
Basis for Decision Making	<ul style="list-style-type: none"> ■ Product-driven ■ Management by opinion 	<ul style="list-style-type: none"> ■ Customer driven ■ Management by facts and data
Attitudes Toward Customers	<ul style="list-style-type: none"> ■ Hostile and careless ■ "Take it or leave it" attitude 	<ul style="list-style-type: none"> ■ Courteous and responsive ■ Empathetic and respectful
Improvement Strategy	<ul style="list-style-type: none"> ■ Crisis management ■ "If it is not broken, don't fix it" 	<ul style="list-style-type: none"> ■ Continuous process improvement ■ Total performance management
Mode of Operation	<ul style="list-style-type: none"> ■ Career-driven independent workers ■ Short-term planning and profitability 	<ul style="list-style-type: none"> ■ Management-supported improvement ■ Teamwork among customers, suppliers, and process owners

Source: Edosomwan 1994.

8. *Quality of product* pertains to product reliability, value, functionality, and dependability. End users also utilize mean-time-to-failure, mean-time-to-repair, and maintenance cycle time and costs to evaluate the quality of products.

The continuous improvement of the eight pillars of quality and the implementation of the TQL system and process enable organizations to move from a tradition-based culture to a customer-driven organization culture. Table 2 summarizes the major differences between traditional and customer-driven organizations.

4. TOTAL QUALITY LEADERSHIP TOOLS AND MODEL

Several models, tools, and techniques are available for improving the quality of products and services and managing the total quality leadership process. Greene (1993) reviewed quality practices in Japan and the United States and claims to have identified about 24 dimensions of total quality management (TQM). Edosomwan (1998a) identified several TQL tools summarized in Table 3 for improving quality and performance at the individual, work-unit, and organizational levels.

The Malcolm Baldrige National Quality Award performance excellence criteria have been widely used as a model for total quality leadership and a tool for achieving performance excellence. The Baldrige criteria and model focus on leadership as a driver of quality. Other aspects of the model include information and analysis, strategic planning, process management, human resource management and development, customer and market focus, and business results. Edosomwan (1998a, b, c, d) developed a more comprehensive performance excellence model, shown in Figure 3, that has been utilized by both public- and private-sector organizations for improving all aspects of performance.

This model is based on augmented, expanded performance criteria, an expanded scoring system, and a defined implementation methodology. The categories and key components of EPEM, described below, retain the components of the Baldrige criteria while providing a more comprehensive, universal criteria and performance-improvement system for both public- and private-sector organizations. There are 10 EPEM categories, as described below:

1. *Leadership* examines how the organization's senior leaders address and communicate the organization's vision, mission, values, and performance expectations, as well as their focus on employees, customers and other stakeholders, empowerment, innovation, learning, organizational direction, and coordination of tasks. Also examined is how the organization addresses its societal responsibilities and community involvement.
2. *Strategic planning* examines the organization's strategy development process, including how the organization develops strategic, tactical, and operational business plans that are aligned with organizational vision, mission, values, resources, budget, measures, and stakeholders' requirements.
3. *Customer and market focus* examines how the organization determines customer requirements, expectations, and preferences of customers and segments. Also examined is how the organization builds relationships with internal, external, and self-unit customers; determines satisfaction levels; and uses information to determine priorities.
4. *Information and analysis* examines the organization's process and approach for collecting, analyzing, and using performance data and other core information across the organization. It also includes the organization's performance measurement system, technology capabilities, data transfer, and information management system.
5. *Human resource development and management* examines how the organization trains and enables employees to develop and utilize their full potential, aligned with the organization's objectives. It also addresses the organization's efforts to build and maintain a work environment of empowerment and a culture and climate conducive to performance excellence, full participation, and personal and organizational growth, providing appropriate recognition and reward.
6. *Process management* examines key aspects of the organization's ability to define, manage, and continuously improve primary, secondary, and auxiliary work processes, including customer-focused design, product and service delivery, and process variation management.
7. *Culture systems and relationship management* examines the organization's ability to create an integrated, cohesive working environment of teamwork and cooperation that is sensitive to the needs and requirements of a diverse employee population. Also examined are the organization's policies, procedures, and actions that are deployed to ensure fair and equitable treatment of stakeholders and the employee population. It examines the organization's culture, environment, and relationships among labor leaders, managers, and labor and their ability to work together in partnership to meet and exceed the organization's goals and objectives.
8. *Technology integration and management* examines the organization's commitment to identification and evaluation of emerging technology related to new products and services, primary

TABLE 3 Selected Examples of Total Quality Leadership Tools

Plan Do Check Act Technique	Provides a methodology to assist individuals and teams in problem solving, planning, work analysis, and implementation of solutions
Personal Performance Improvement Model	Provides a model for assisting individuals in developing and implementing performance-improvement goals
Quality Error-Removal Technique	Provides a team-based approach for analyzing and removing error and defect sources
Statistical Process Control Technique	Provides statistical techniques and tools for controlling managing process variation
Force Field Analysis Tool	Provides a graphical means of understanding, quantifying, and balancing the positive and negative impacts related to goal achievement for individuals and teams
Brainstorming Technique	Provides a process for a group to quickly generate, clarify, and evaluate ideas, suggestions, problems, and issues to stimulate the creativity of individuals in a participative, group problem-solving process
Benefit Energy Dots Tool	Provides a structured process for multivoting and subjective prioritization of ideas and suggestions in a team problem-solving environment
Job Requirement Mapping Tool	Provides an approach and a working tool for defining and understanding the requirements of the job
Problem-Solving Approach	Provides the key steps for successfully resolving any problem by testing, defining and implementing solutions
Process Analysis Technique	Provides a technique for defining the steps of work processes and analyzing them to identify non-value-added steps and opportunity areas
Group Ideas Management Technique	Provides a methodology for generating ideas, solving problems in a team environment, and prioritizing the ideas for the optimal solution
Cause-and-Effect Diagram	Provides steps for constructing a cause-and-effect diagram for identifying root causes of a problem
Pareto Analysis Technique	Provides a graphical representation of identified causes presented in descending order of magnitude or frequency
Error Mapping Technique	Provides an approach for analyzing quantitative error data to identify the sources of errors and defects in work elements, tasks, and processes
Problem Statement Impact Definition Tool	Provides a comprehensive description of the actionable item and stratifies the items which an individual or team intends to analyze for performance improvement; helps individuals specify data and information relevant to a specific problem
Problem-Containment Model	Provides a framework for containing problems from irate individuals, teams, and the work environment
Complaint-Resolution Model	Provides a step-by-step process for resolving internal and external customer complaints
E-Alarmo Technique	Provides an approach for identifying and resolving breaks in customer service and handling irate customers
Process Reengineering Technique	Provides a methodology for reengineering and transforming organizational structures and work processes
Process Element Mapping Technique	Provides a step-by-step approach for mapping process steps, elements, requirements, and owners
PADER Technique	Provides a five-dimension scoring system for evaluating an organization's performance with focus on plan, approach, deployment, evaluation and results

Source: Edosomwan 1998a.

and support process performance, and people management. It assesses the organization's technology utilization, systems integration, and connectivity elements.

9. *Supplier performance management* examines the organization's commitment to and process for ensuring a high-performance supplier base capable of meeting and exceeding specifications and requirements for all goods and services procured by the organization.

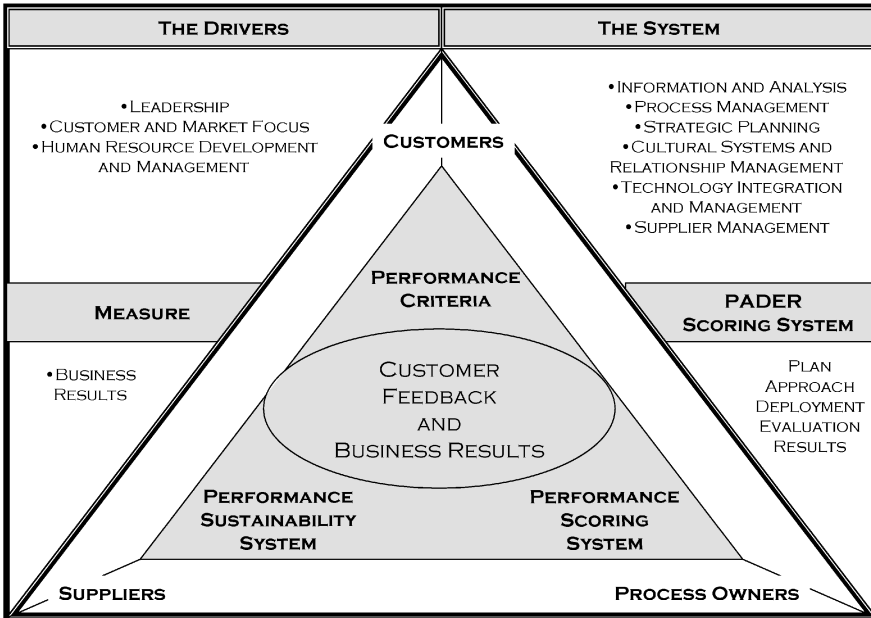


Figure 3 Edosomwan Performance Excellence Model (EPEM). (From Edosomwan 1998a, b, c, d)

10. *Business results* examines the key results and trends related to the organization's performance in key business areas: customer satisfaction, employee satisfaction, product and service performance, financial management, marketplace performance, mission accomplishment, human resource results, supplier and partner results, and operational performance. Also examined are performance levels relative to world-class organizations.

4.1. PADER Scoring System

Edosomwan (1995, 1998a, b, 2000), developed the Plan, Approach, Deployment, Evaluation, and Results (PADER) scoring system, shown in Figure 3. The system has five performance-evaluation dimensions. The PADER system is utilized for continuous measurement, evaluation and scoring of the categories of the EPEM model. Each component of the PADER scoring system is described below:

1. *Plan* considers the existence of strategic, tactical, and operational thinking, covering long-range, medium-range, and short-term time horizons, respectively. The success of all aspects of a comprehensive continuous performance improvement system depends heavily on a sound, results-driven plan.
2. *Approach* examines the methods used in the organization. Factors used to evaluate the approach dimension include appropriateness of the methods to the requirements; effectiveness of the methods; degree to which the approach is systematic, integrated, consistently applied, embodies evaluation and improvement cycles, and is based on reliable data and information; and evidence of innovation and effective adaptations of approaches used in other types of applications or organizations.
3. *Deployment* refers to the extent to which the organization's approach is implemented across the organization. The factors used to evaluate deployment include the use of the approach in addressing business requirements and the use of the approach by all appropriate work units.
4. *Evaluation* examines the mechanisms, processes, methodologies, and measures used for evaluating, monitoring, and tracking organizational performance for all category elements on a regular basis.
5. *Results* addresses organizational outcomes. The factors used to evaluate the results dimension include current performance; performance relative to appropriate comparisons to world-class

results or benchmark organization; rate, breadth, and importance of performance improvements; and demonstration of sustained improvement over an extended period of time.

5. IMPLEMENTATION OF THE TOTAL QUALITY LEADERSHIP PROCESS

The successful implementation of TQL requires leaders and managers to possess the characteristics and attributes shown in Table 4. *Leading* TQL involves the thought process and act of creating a quality-driven, executable vision or agenda in a systematic manner for the purpose of achieving desired performance results and outcomes. Organizational leaders create, choose, convince, inspire, direct, cause, and make things happen. *Managing* TQL involves the thought process and act of planning, organizing, directing, evaluating, maintaining, supervising, and producing desired quality results and outcomes through people to accomplish the leadership vision and agenda. Organizational managers implement, administer, supervise, and maintain the process of making this happen. Quality results do not happen by accident. The process must be led, managed, and implemented by customers, process owners, suppliers, and the workforce.

The eight steps shown in Figure 4 and described below are recommended for implementing the TQL process in both public- and private-sector organizations:

5.1. Step One: Provide Leadership and Vision for Performance Excellence

Organizational senior leadership must provide the vision, values, culture, and environment for performance excellence. Senior managers need to be trained on the tools, techniques, and principles for leading an organizational performance improvement process. Comprehensive world-class data and information should be utilized to convince top management of customer-driven performance improvement needs and benefits. Do a thorough analysis of the market requirements. Use competitive data on products and services, market share, cost profile, customer, quality, and performance improvement. Explaining the role of the customer, quality, and successful and unsuccessful customer performance improvement examples from other companies also provides a quick way of helping executives see the benefits of adopting the customer-driven performance improvement philosophy. The message to top management is that improvement of quality, productivity, customer satisfaction, and performance are key to achieving competitive advantage, profitability, efficiency, growth, and effectiveness.

5.2. Step Two: Communicate the Continuous Performance Improvement Philosophy

Once senior management support has been achieved, the next step is to communicate and demonstrate management's commitment to the TQL process. Communication regarding the TQL philosophy should emphasize that everything begins with the customer; that is, the sole purpose of the business

TABLE 4 Attributes of Effective Leaders and Managers

Leaders	Managers
1. Create the vision, agenda, purpose, goals, and objectives	1. Implement goals, objectives, policies, and procedures
2. Lead programs and processes for continuous improvement	2. Administer programs for continuous improvement
3. Ask what and why the organization is now and will be in the future	3. Ask how and when—focused on details
4. Are developers of people and organizations	4. Educate people and motivate them to do their best
5. Lead change, are pace setters and risk takers	5. Recognize and reward in a timely manner
6. Provide trust, hope, results, compassion, and constancy of purpose	6. Appraise and counsel to improve performance
7. Remind people of what is important	7. Maintain the process of getting things done
8. Develop customer- and people-driven agendas and results	8. Are proactive rather than reactive
9. Set policies, procedures, and results	9. Implement policies, procedures, and rules
10. Create and build relationships and trust	10. Maintain positive relationships and trust
11. Innovate new productive systems	11. Maintain new and existing systems
12. Use data- and fact-driven, prevention-based strategies and solutions	12. Use data- and fact-driven, prevention-based management

Source: Edosomwan 1999b.

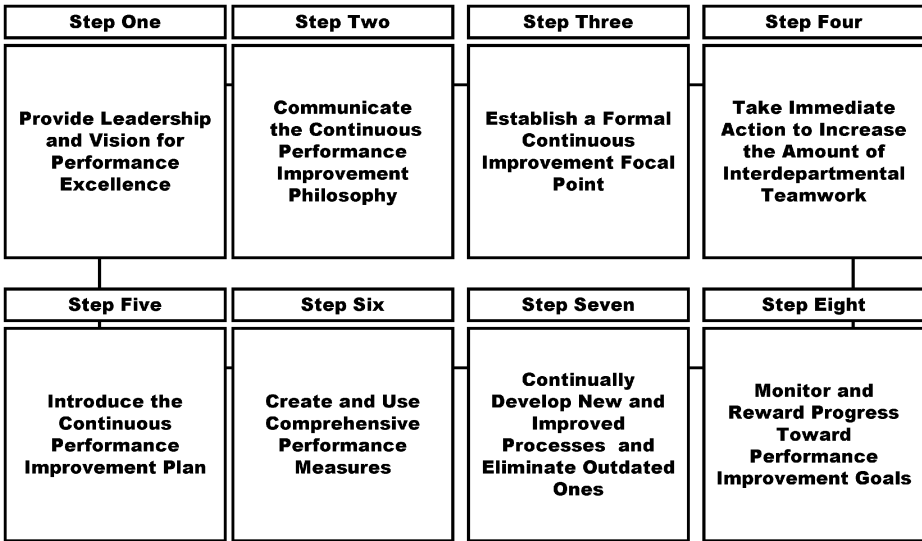


Figure 4 Eight Steps for Implementing Total Quality Leadership Process.

is to attract, serve, and exceed customer’s expectations. The commitment to performance excellence means that a total quality culture exists in which everyone constantly considers the quality of their work and how it is reflected in the final output. This also requires that workers be given control, responsibility, and decision latitude for a variety of activities, such as maintenance, information control, quality, process analysis, service, production, and resource allocation. Adopting a TQL philosophy also means focusing on management using facts and data, quality first, proper planning, and effective utilization of human resources.

5.3. Step Three: Establish a Formal Continuous Performance Improvement Focal Point

Recruit seasoned and talented individuals to develop quality-driven performance improvement programs. Individuals charged with this program development must also be given the authority and resources required to institutionalize the program elements. The organization should benchmark successful quality practices implemented in other organizations to avoid potential sources of failure.

5.4. Step Four: Take Immediate Action to Increase the Amount of Interdepartmental Teamwork

People should be trained to work together toward common performance and quality goals while sharing ownership of the final work output. Individuals and work teams should be encouraged to participate in group problem solving, decision making, and incentive systems for rewarding quality excellence. Organizational barriers that hinder teamwork should be eliminated. The method of working should focus on cooperation, not contention. Everyone can make a difference in the quest for continuous performance improvement. Both management and employees should be encouraged to take greater responsibility for their work processes and provide ideas for improving the total process. Managers and supervisors should use a participative management approach to encourage innovative ideas from everyone and put them to work. The environment should allow managers and employees to share in decision making and problem solving and recognition, which are essential for error prevention and innovative improvements.

5.5. Step Five: Introduce the Continuous Performance Improvement Plan to the Team

The organization’s quality, productivity, and customer satisfaction strategy should describe the framework, approaches, goals, and objectives that the organization will pursue to achieve continuous performance improvement. At every level of the organization, it is important to have a performance improvement strategy consistent with customer requirements, market demands, operating principles, procedures, and policies. The performance improvement strategy should be the responsibility of the

senior management team. Senior management in each operational unit should work with its team to define tactical and operational strategies. The performance improvement strategy should address performance planning, measurement, evaluation, and improvement management. Continuous performance planning involves defining the specific strategies for understanding the market and maintaining an awareness of customer needs, wants, and desires. The plan should define opportunities for supplier and customer involvement in formulating performance improvement needs. This element of the strategy will define the process for continuous improvement and people improvement. Other requirements that may be included in the strategy include updated product specifications such as those for hardware and software; equipment for enhanced measurement, inspection, and testing; process control; and resource management tools. The performance management element should define the strategy for developing the skills and knowledge required by management and employees to do the job right the first time. Plans for education and training should include technical and managerial courses, seminars, and workshops. This element should define communication channels for quality and performance improvement throughout the organization. Such channels of communication should ensure that customers, suppliers, employees, and stockholders are informed about quality goals, objectives, policy, direction, guidance, and performance. The performance management plan should also define specific direction and procedures for monitoring compliance to the organization's quality policy, ensuring successful implementation of the quality goals and objectives. Once developed, the integrated master performance strategy for the organization should be reviewed and revised annually by the organization's senior management committee. This committee should be composed of representatives from all the functional areas of the business, including research and development, manufacturing, marketing, services, and support groups. Once developed, the performance improvement plan should be communicated to everyone with specific milestones and measurements for assessing performance.

5.6. Step Six: Implement Comprehensive Performance Measures at All Levels

Develop and implement comprehensive performance measures for managers and nonmanagers, as well as suppliers and process owners. One of the essential elements of developing a quality-driven organization is deciding how the performance of managers and nonmanagers is evaluated and rewarded. Performance measurements should be more than sales volume, short-term profitability, and rate of return on investment. The focus in developing performance measures for both managers and nonmanagers should include but not be limited to the following areas: short- and long-term profits, customer satisfaction indices, quality and productivity improvement indicators, organizational development, market share profile, rate of return on investment, and product reliability measures. Impediments to successful management of information and measures of performance include poor channels of communication and inadequate data collection processes. Communication channels, such as meetings and electronic data exchange, are recommended at all levels of the organization.

5.7. Step Seven: Develop New, Improved Processes to Eliminate Outdated Ones

Identify the products and services to be provided; define the process sources of variation; and define non-value-added steps with ongoing focus on process measurement, evaluation, control, and improvement. Develop new processes that provide defect-free output and satisfy customer requirements. TQL should encourage broad ownership and total participation by everyone, as well as accountability for results. The commitment from everyone should also include willingness to change unproductive work habits and adopt the attitude of doing the job right the first time. To achieve expected customer satisfaction and quality results, individuals and work teams should be provided with the right training and education. Quality education is essential because it prepares everyone to perform well by providing the knowledge needed to make logical, intelligent decisions. If the right skills are provided, people develop efficient work habits and positive work ethics and attitudes that lead to performance excellence. Training should focus on basic orientation to quality, techniques, and tools for quality improvement, quality leadership, technical skills, process involvement, and teamwork.

5.8. Step Eight: Monitor and Recognize Progress toward Performance Improvement Goals

Publicize successful pilot projects. Reward heroes and consistently performing individuals who have made a difference. A management system that recognizes and encourages ongoing quality improvement efforts must be developed and implemented. In rewarding quality success, place emphasis on accomplishments of teams as well as individuals. Provide recognition and reward in a timely manner. Promotions, pay increases, awards, additional responsibilities, and thanks for a job well done should recognize the accomplishments of teams and individuals. Utilize comprehensive performance measures to evaluate progress of projects, individual and team performance, and overall organizational effectiveness. Continue to build pockets of success through the promotion of successful performance improvement projects.

6. SELECTED TQL KEY SUCCESS FACTORS AND CONCLUSIONS

Edosomwan (1994) presents selected key TQL foundation factors for public- and private-sector organizations aspiring to become benchmarks in performance excellence (see Figure 5). These factors focus on the foundational elements, the key players, the philosophy, the implementation process and levels, the scorecard, and the achievement of desired goals and deliverables. The implementation of the TQL process requires teamwork between all key organizational stakeholders, the philosophy of continuous improvement, an implementation process that focuses on strategic, tactical, and operational issues with ownership for results at the individual, team, work-unit, and organizational levels. Other TQL implementation success factors and lessons learned from world-class organizations by Edosomwan (1994, 1998a, b, c, d) include the following:

1. *Defined leadership expectations:* An organization’s senior leaders and managers must ensure the existence of clear quality values, vision, goals, and expectations with defined measures. Systems for achieving organizational goals must be clearly defined. These systems must guide all tasks; activities of the organization to enable all stakeholders contribute to the achievement of the quality goals and objectives.
2. *Employee training, empowerment, and participation:* In world-class quality organizations, employees are partners with management in making decisions about how work is done. People are empowered with the right training, tools, techniques, and authority to deliver error and

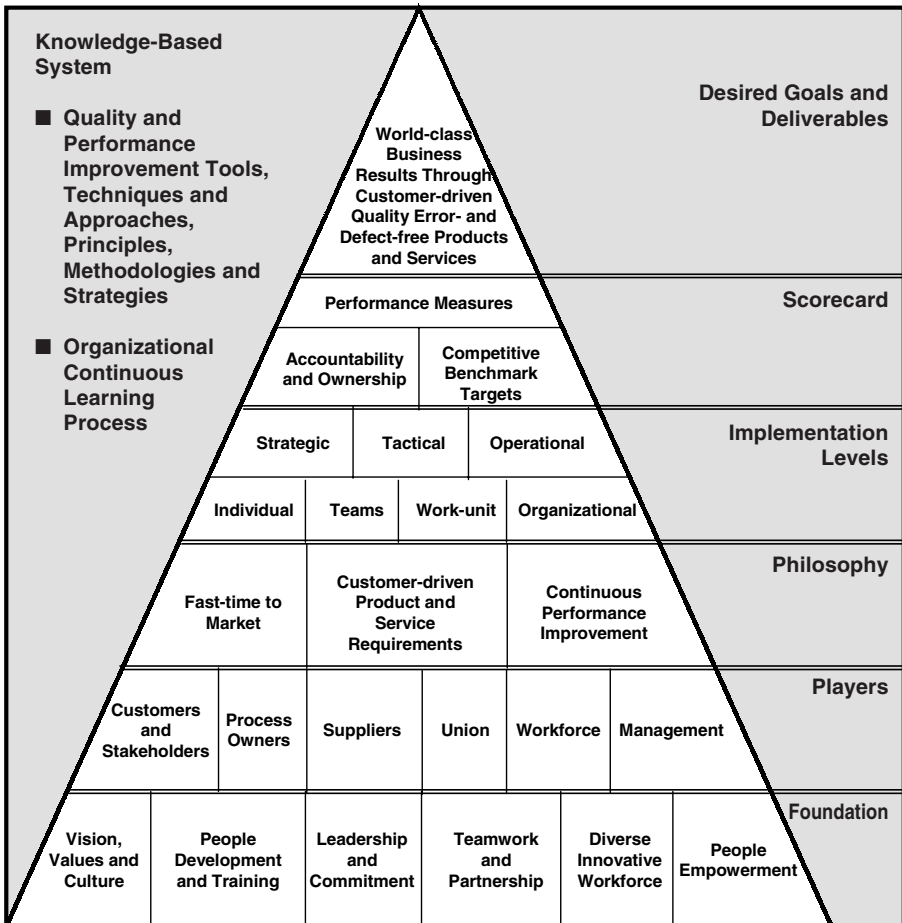


Figure 5 Selected Key TQL Factors. (Source: Edosomwan 1994, 1998a, b, c, d).

defect free products and services to customers. The organization leadership creates an environment conducive to employee participation in the TQL process.

3. *Continuous improvement and benchmarking*: In world-class quality organization, quality results from a well-executed approach to continuous improvement and learning. The term *continuous improvement* refers to both radical, incremental and breakthrough improvement. The term *learning* refers to adaptation to change, leading to new goals and results-oriented approaches for delivery of products and services to customers. World-class quality organizations also benchmark and implement best business practices to improve performance at the individual, team, work unit and organizational levels.
4. *Partnership for progress and teamwork*: World-class quality organizations promote and implement methods, approaches, and systems for cooperation and suppliers, process owners, and customers. Internal partnering arrangements are also utilized to help individual employees and the workforce achieve defined quality goals and objectives. Also, strong emphasis is placed on team-based problem solving, team-based product design process, self-directed work teams for production, and service-related functions and activities.
5. *Innovation and fast response*: Successful quality organizations promote innovation and risk taking that produces new ideas, suggestions, and breakthrough technologies for performance excellence. They are very responsive to customers. There is continuous focus in product and service-cycle time reduction at all product and service life-cycle stages.
6. *Facts and data-improvement process*: World-class quality organizations utilize reliable data and facts for decisions. Significant investment in information and data gathering systems and tools is made to enable those participating in the quality process to analyze and solve problems with accurate data and information.
7. *Long-range view of the future*: Successful quality organizations usually have a strong orientation toward the future and a willingness to make long-term commitments to customers, suppliers, stakeholders, and employees. They anticipate challenges and put the right strategic, tactical, and operational plans in place to achieve success.
8. *Prevention-based management*: World-class quality organizations utilize highly effective systems and tools to build quality into products and services and the processes through which they are produced. The focus is on error and defect prevention and not on crisis management of problems that could have been prevented through appropriate planning.
9. *Customer-driven quality results*: World-class organizations operate on the philosophy that customers judge quality. Customers' requirements and specifications therefore drive all products and service features that contribute value to customers and lead to customer satisfaction, preference, loyalty, and retention. These organizations also focus on achieving world-class results through defined process for customer segmentation, anticipating demands, problem solving and analysis, performance planning, measurement, evaluating, and improvement.
10. *Diversity as a strength*: World-class quality organizations utilizes the skills, talents, and abilities of a diverse workforce to achieve quality goals and objectives. Employing people of different genders and abilities and with rich variety of educational, cultural, ethnic, linguistic, and physical characteristic enables these organizations to serve diverse customer segments and populations effectively. Diversity is seen by quality organizations as a strength in individual and team capabilities to innovate, solve problems and deliver error and defect-free products and services.

There are enormous benefits from implementing the quality improvement process in an organization. One of the outcomes of the process is a radical shift from a traditional to a customer-driven organization. The new customer-driven organization is responsive and competitive and able to address new market demands and challenges. The customers benefit from improved products and services, and the employees benefit from full-time employment, better wages, job satisfaction, and improved morale. The organizational suppliers and stakeholders benefit from financial gains and business growth.

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