

Total Quality Management (TQM)

Description

The Total Quality Management (TQM) system focuses on the customer with long-term success measured through customer satisfaction. TQM is designed to be a dynamic process where all staff in the organization are involved in continual improvement of processes, products, services, and organizational culture to enhance quality. It uses strategy, data, and effective communications to integrate the quality principles into the culture and activities of the organization. Many of the concepts that originated with TQM are present in other modern quality management systems, the successors to TQM.

The eight principles of total quality management are as follows:

1. **Customer-focused:** The customer ultimately determines the level of quality. No matter what an organization does to foster quality -- employees, integrating quality into the design process, or upgrading computers or software -- the customer determines whether the efforts were worthwhile.
2. **Total employee involvement:** All employees work toward common goals. To gain total employee commitment, fear must be driven from the workplace, employees must feel empowered, and management must provide the proper environment. Self-managed work teams are one form of empowerment. High-performance work systems integrate continuous improvement efforts with normal business operations.
3. **Process-centered:** A fundamental part of TQM is a focus on process thinking. A process is a series of steps that take inputs from suppliers (internal or external) and transforms them into outputs that are delivered to customers (internal or external). The steps required to carry out the process are defined, and performance measures are continuously monitored in order to detect unexpected variation.
4. **Integrated system:** Although an organization may consist of many different functional specialties often organized into vertically structured departments, it is the horizontal processes interconnecting these functions that are the focus of TQM.
 - a. Micro-processes add up to larger processes, and all processes aggregate into the business processes required for defining and implementing strategy. Everyone must understand the vision, mission, and guiding principles as well as the quality policies, objectives, and critical processes of the organization. Business performance must be monitored and communicated continuously.
 - b. An integrated business system may be modeled after the Baldrige Award criteria and/or incorporate the ISO 9000 standards. Every organization has a unique work culture, and it is virtually impossible to achieve excellence in its products and services unless a good quality culture has been fostered. Thus, an integrated system connects business improvement elements in an attempt to continually improve and exceed the expectations of customers, employees, and other stakeholders.

5. **Strategic and systematic approach:** A critical part of the management of quality is the strategic and systematic approach to achieving an organization's vision, mission, and goals. This process, called strategic planning or strategic management, includes the formulation of a strategic plan that integrates quality as a core component.
6. **Continual improvement:** A core aspect of TQM is continual process improvement. Continual improvement drives an organization to be both analytical and creative in finding ways to become more competitive and more effective at meeting stakeholder expectations.
7. **Fact-based decision-making:** In order to know how well an organization is performing, data on performance measures are necessary. TQM requires that an organization continually collect and analyze data in order to improve decision making accuracy, achieve consensus, and project future outcomes based on past history.
8. **Communications:** During times of organizational change, as well as part of day-to-day operation, effective communications is crucial in maintaining morale and in motivating employees at all levels. Communications involve strategies, method, and timeliness.

These principles are considered so essential to TQM that many organizations define them, in some format, as a set of core values. The methods for implementing this approach come from the teachings of Philip B. Crosby, W. Edwards Deming, Armand V. Feigenbaum, Kaoru Ishikawa, and Joseph M. Juran.

Background

The history of total quality management (TQM) began initially as a term coined by the Naval Air Systems Command to describe its Japanese-style management approach to quality improvement. In the 1920s, some of the first seeds of quality management were planted as the principles of scientific management and swept through U.S. industry. Businesses clearly separated the processes of planning and carrying out the plan, and union opposition arose as workers were deprived of a voice in the conditions and functions of their work. The Hawthorne experiments in the late 1920s showed how worker productivity could be impacted by participation in management. In the 1930s, Walter Shewhart developed the methods for statistical analysis and control of quality which informed future the work of Dr. Edwards Deming and Joseph M. Juran who are considered the founders of TQM.

In the 1940s, during World War II, quality became more statistical in nature. Statistical sampling techniques were used to evaluate quality, and quality control charts were used to monitor the production process. In the 1950s, Deming taught methods for statistical analysis and control of quality to Japanese engineers and executives. This can be considered the origin of TQM. Juran taught the concepts of controlling quality and managerial breakthrough. Armand V. Feigenbaum's book Total Quality Control, a forerunner for the present understanding of TQM, was published. Philip B. Crosby's promotion of zero defects paved the way for quality improvement in many companies.

Deming was an American engineer, statistician, and professor. He helped develop the sampling techniques still used by the U.S. Department of the Census and the Bureau of Labor Statistics. After WWII, in 1950, he worked with Japanese industry leaders (engineers and executives). He delivered speeches on what he called "Statistical Product Quality Administration" which focused on methods for statistical analysis and control. This can be considered the origin of TQM. Deming went on to develop his 14 Points and his system of thought he called the "System of Profound Knowledge."

Juran was an engineer who taught the concepts of controlling quality and managerial breakthrough. The first edition of Juran's Quality Control Handbook in 1951 attracted the attention of the Japanese Union of Scientists and Engineers, which invited him to Japan in 1952. Operating independently of Deming, he worked with executives from 10 manufacturing companies on managing for quality. Juran is widely credited for adding the human dimension to quality management. He pushed for the education and training of managers. For Juran, human relations problems were the ones to isolate, and resistance to change was the root cause of quality issues. His concept of quality management extended outside the walls of the factory to encompass nonmanufacturing processes, especially those that might be thought of as service related.

In the 1960s, with the help of individuals like Deming and Juran, the concept took on a broader meaning. Quality began to be viewed as something that encompassed the entire organization, not only the production process. Since all functions were responsible for product quality and all shared the costs of poor quality, quality was seen as a concept that affected the entire organization. In 1968, the Japanese named their approach to total quality "companywide quality control." It is around this time that the term quality management systems emerged. Kaoru Ishikawa's synthesis of the philosophy contributed to Japan's ascendancy as a quality leader.

In 1981, Ford Motor Company was one of the first American corporations to seek help from Deming. He attributed the decline in sales to management and not quality issues. By 1986, Ford had become the most profitable American auto company which they attributed to Deming's teachings. In 1982, Edwards Deming, Paul Hertz, and Howard Gitlow founded the W. Edwards Deming Institute for the Improvement of Productivity and Quality. In 1983, the institute trained consultants of Ernst and Whinney Management Consultants who went on to found the Deming Quality Consulting Practice.

In the 1980s and 1990s, the name Total Quality Management (TQM) emerged as a new phase of quality control and management began. Having observed Japan's success of employing quality issues, western companies started to introduce their own quality initiatives. TQM, developed as a catchall phrase for the broad spectrum of quality-focused strategies, programs, and techniques during this period. In 1988, a major step forward in quality management was made with the development of the Malcolm Baldrige Award in the United States. The model, on which the award was based, represented the first clearly defined and internationally recognized TQM model. It was developed by the United States government to encourage companies to adopt the model and improve their competitiveness.

TQM is now the name for the philosophy of a broad and systemic approach to managing organizational quality. Quality standards such as the ISO 9000 series and quality award programs such as the Deming Prize and the Malcolm Baldrige National Quality Award specify principles and processes that comprise TQM. TQM as a term to describe an organization's quality policy and procedure has fallen out of favor as international standards for quality management have been developed. An umbrella methodology for continually improving the quality of all processes, it draws on a knowledge of the principles and practices of the following:

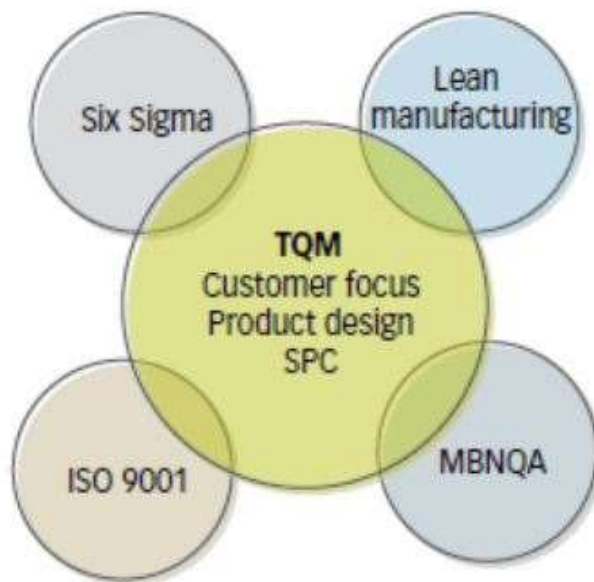
- The behavioral sciences;
- The analysis of quantitative and nonquantitative data;
- Economics theories; and
- Process analysis

TQM models are often called Business Excellence Models. Also, TQM itself is now often called Business Excellence. This is to distinguish the “new TQM” from the past work on TQM.

Intersection with Other Quality Management Systems

Imprints of TQM concepts can be found in modern approaches to quality management, such as the Malcolm Baldrige National Quality Award (MBNQA) criteria, ISO 9001, Six Sigma, and lean manufacturing.

Diagram: Intersection of TQM with other Quality Management Systems



Purpose

Deming taught that by adopting appropriate principles of management, organizations can increase quality and simultaneously reduce costs (by reducing waste, rework, staff attrition, and litigation while increasing customer loyalty). The key is to practice continual improvement and think of manufacturing as a system, not as bits and pieces. The goal of total quality management is to garner optimal customer satisfaction. The benefits to adopting the system are as follows:

- Strengthened competitive position
- Adaptability to changing or emerging market conditions and to environmental and other government regulations
- Higher productivity
- Enhanced market image
- Elimination of defects and waste
- Reduced costs and better cost management
- Higher profitability
- Improved customer focus and satisfaction
- Increased customer loyalty and retention
- Increased job security
- Improved employee morale
- Enhanced shareholder and stakeholder value
- Improved and innovative processes

How It Works

Generic Strategy Model for Implementing TQM Systems

1. Top management learns about and decides to commit to TQM. TQM is identified as one of the organization's strategies.
2. The organization assesses current culture, customer satisfaction, and quality management systems.
3. Top management identifies core values and principles to be used and communicates them.
4. A TQM master plan is developed based on steps 1, 2, and 3.
5. The organization identifies and prioritizes customer demands and aligns products and services to meet those demands.
6. Management maps the critical processes through which the organization meets its customers' needs.
7. Management oversees the formation of teams for process improvement efforts.
8. The momentum of the TQM effort is managed by the steering committee.
9. Managers contribute individually to the effort through hoshin planning, training, coaching, or other methods.

10. Daily process management and standardization take place.
11. Progress is evaluated and the plan is revised as needed.
12. Constant employee awareness and feedback on status are provided and a reward/recognition process is established.

Core Values, Principles and Concepts

W. Edwards Deming's 14 Points for Total Quality Management, or the Deming Model of Quality Management, a core concept on implementing total quality management (TQM), is a set of management practices to help companies increase their quality and productivity.

Deming's 14 Points for TQM

1. Create constancy of purpose for improving products and services.
2. Adopt the new philosophy.
3. Cease dependence on inspection to achieve quality.
4. End the practice of awarding business on price alone; instead, minimize total cost by working with a single supplier.
5. Improve constantly and forever every process for planning, production, and service.
6. Institute training on the job.
7. Adopt and institute leadership.
8. Drive out fear.
9. Break down barriers between staff areas.
10. Eliminate slogans, exhortations, and targets for the workforce.
11. Eliminate numerical quotas for the workforce and numerical goals for management.
12. Remove barriers that rob people of pride of workmanship and eliminate the annual rating or merit system.
13. Institute a vigorous program of education and self-improvement for everyone.
14. Put everybody in the company to work accomplishing the transformation.

These total quality management principles can be put into place by any organization to implement total quality management more effectively. As a total quality management philosophy, Dr. Deming's work is foundational to TQM and its successor, quality management systems.

Framework

Diagram: Total Quality Management (TQM) Framework: Key Elements



Application

Strategy 1: The TQM element approach takes key business processes and uses the tools of TQM to foster improvements. This method was widely used in the early 1980s as companies tried to implement parts of TQM as they learned them. Examples of this approach include quality circles, statistical process control, Taguchi methods, and quality function deployment.

Strategy 2: The guru approach uses the teachings and writings of one or more of the leading quality thinkers as a guide against which to determine where the organization has deficiencies. The organization makes appropriate changes to remedy those deficiencies. For example, managers might study Deming's 14 points or attend the Crosby College. Afterward, they would work on implementing the approach learned.

Strategy 3: In the organization model approach, individuals or teams visit organizations that have taken a leadership role in TQM and determine their processes and reasons for success. They then integrate these ideas with their own ideas to develop an organizational model adapted for their specific organization. This method was used widely in the late 1980s and is exemplified by the initial recipients of the Malcolm Baldrige National Quality Award.

Strategy 4: Organizations using the Japanese total quality approach examine the detailed implementation techniques and strategies employed by Deming Prize-winning companies and use this experience to develop a long-range master plan for in-house use. This approach was used by Florida Power and Light, among others, to implement TQM and to compete for, and win, the Deming Prize.

Strategy 5: When using award criteria model, an organization uses the criteria of a quality award (e.g., the Deming Prize, the European Quality Award, or the Malcolm Baldrige National Quality Award) to identify areas for improvement. Under this approach, TQM implementation focuses on meeting specific award criteria. Although some argue that this is not an appropriate use of award criteria, some organizations do use this approach and it can result in improvement.

Vocational Rehabilitation

There is some evidence that Total Quality Management has been used by Government and Human Service Organizations. To the best of our knowledge, no VR agencies are using this model. Various VR agencies have implemented Lean Six Sigma and the Malcolm Baldrige Model of Performance Excellence framework which share similar standards and principles.

Other Organizations

Deming's teachings and Total Quality Management methods have had broad influence on organizations like the U.S. Environmental Protection Agency, Vernay Laboratories, and Marshall Industries. With the growing maturity of society with respect to education, culture and standards of living, the service sector demands for improved quality of service are increasing. This is part of the pressure causing service organizations to explore TQM as a means of driving quality improvement into all their activities. (*Source: TQM in the service sector, Mohanty, 1996.*)

Criticisms or Concerns

While TQM is considered an effective quality management system, it has garnered criticism on several aspects. TQM is a time-consuming process as it involves proper evaluation of the process of manufacturing a product or service. This is not atypical of other models, and for any real systematic change, an organization needs to remain committed and be realistic that not all changes will occur immediately. Another cited critique is that it can be costly to maintain the quality of the product. It requires the cost of training the employees, improving the infrastructure of the organization, charges of the consultancy firm to aid in improving quality. Lastly, some argue that there is a danger of hindering creativity and innovation. If an organization focuses on the satisfaction of the customer only and the product satisfies the needs of the customer, then it is not necessary, that the innovative product will also satisfy. Thus, the management cannot use creative ideas as it may result in losing the customer.

Effectiveness

Results from research shows that the core principles of Total Quality Management are widely implemented in manufacturing industries. Despite this, many employees don't have a clear idea of what Total Quality Management is, and that the more successful industries tend to have more deep knowledge and usage of the TQM principles. These companies may get benefit by giving time to fully understand TQM concept and can use it to its fullest potential.

Recommendation for Use In VR

With the established process established by law and regulation for the public vocational rehabilitation program, where individuals move through referral, application, and eligibility to assessment, planning and service delivery and on to employment placement, monitoring and eventual closure, all under the umbrella counseling and guidance, TQM as a quality improvement model has efficacy worthy of consideration. Its operational structure may meet an agency's needs as a stand-alone approach to improving quality management, or in combination with other complimentary quality management models (ISO 900 or Baldrige, for example).

Certification

[Manager of Quality/Organizational Excellence Certification - CMQ/OE](#): The certification is intended for professionals who lead and champion process-improvement initiatives, everywhere from small businesses to multinational corporations. These individuals lead team efforts to establish and monitor customer/supplier relations, supports strategic planning and deployment initiatives, and helps develop measurement systems to determine organizational improvement. They will also motivate and evaluate staff, manage projects and human resources, analyze financial situations, determine and evaluate risk, and employ knowledge management tools and techniques in resolving organizational challenges.

Courses

[Quality 101](#): This course teaches concepts like the seven basic quality tools to improve processes and increase your organization's operational efficiency.

[Integrated Quality Management](#): This course teaches how to integrate quality management into your organization's processes. You'll leave this course with a draft action plan customized to fit the needs of your business. These concepts are applicable to a wide range of industries, including manufacturing, service, education, and healthcare.

[Certified Manager of Quality/Organizational Excellence Certification Preparation](#): This course is a certification preparation course for individuals preparing to take the ASQ Certified Manager of Quality/Organizational Excellence examination.

Resources

Websites

Total Quality Management in HR: <https://www.hrexchangenetwork.com/hr-talent-management/articles/total-quality-management-in-hr>

Books

- The Certified Manager of Quality/Organizational Excellence Handbook
- From Quality to Business Excellence: A Systems Approach to Management
- Juran, Quality, and a Century of Improvement
- Insights to Performance Excellence 2019-2020
- Total Quality Management in Human Service Organizations

Articles

A Preview of Total Quality Management (TQM) in Public Services: Total Management System or Total Quality Management (TQM) is a management system that focuses on the Customer by involving all levels of employees in upgrading or continuous improvement. Total Quality Management used data and effective communication to integrate his discipline into the culture and quality of company activities. In short, Total Quality Management (TQM) is a management approach to achieve long- term success through customer satisfaction. This study had two objectives. The first objective was to examine challenges when implementing TQM in public organizations. The second objective was to argues that TQM brings good implications to public services to enhance service quality.

[Why and How TQM Leads to Performance Improvements](#) (*Quality Management Journal*)

Evidence shows that TQM improves organizational performance, but researchers disagree on why and how such improvements occur and on who really benefits. This study tests hypotheses relating to TQM adoption and the path from wealth creation to wealth appropriation.

[The Relationship Between ISO 9000 Certification, TQM Practices, And Organizational Performance](#) (*Quality Management Journal*) There is no consensus among the research community about the relationship between ISO 9000 certification and TQM, and the effect of each of these quality management practices on organizational performance is still debated. This paper developed a conceptual model to study the relationships between ISO 9000 certification, TQM practices, and organizational performance.

[The Role of Strategic Planning in Implementing a Total Quality Management Framework: An Empirical View](#) (*Quality Management Journal*) This empirical study examines the significant role of strategic planning as an important dimension in successfully implementing TQM and confirming that strategic planning is likewise extremely important.

[Total Quality Management in Government](#): A Practical Guide for the Real World by Steven Cohen, Ronald Brand. Journal of Public Administration Research and Theory: J-PART, Vol. 4, No. 1, The Berkeley Symposium on Public Management (Jan. 1994), pp. 93-98 (6 pages) Published by: Oxford University Press.

Videos

[TQM: The History and the Now](#) (ASQTV). This episode explores total quality management's beginnings and how it's used to build and sustain a culture of quality today.