

Introduction and Implementation of Total Quality Management (TQM)

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Total Quality Management is a management approach that originated in the 1950's and has steadily become more popular since the early 1980's. Total Quality is a description of the culture, attitude and organization of a company that strives to provide customers with products and services that satisfy their needs. The culture requires quality in all aspects of the company's operations, with processes being done right the first time and defects and waste eradicated from operations.

Total Quality Management, TQM, is a method by which management and employees can become involved in the continuous improvement of the production of goods and services. It is a combination of quality and management tools aimed at increasing business and reducing losses due to wasteful practices.

Some of the companies who have implemented TQM include Ford Motor Company, Phillips Semiconductor, SGL Carbon, Motorola and Toyota Motor Company.¹

TQM Defined

TQM is a management philosophy that seeks to integrate all organizational functions (marketing, finance, design, engineering, and production, customer service, etc.) to focus on meeting customer needs and organizational objectives.

TQM views an organization as a collection of processes. It maintains that organizations must strive to continuously improve these processes by incorporating the knowledge and experiences of workers. The simple objective of TQM is "Do the right things, right the first time, every time". TQM is infinitely variable and adaptable. Although originally applied to manufacturing operations, and for a number of years only used in that area, TQM is now becoming recognized as a generic management tool, just as applicable in service and public sector organizations. There are a number of evolutionary strands, with different sectors creating their own versions from the common ancestor. TQM is the foundation for activities, which include:

- Commitment by senior management and all employees
- Meeting customer requirements
- Reducing development cycle times
- Just In Time/Demand Flow Manufacturing
- Improvement teams
- Reducing product and service costs
- Systems to facilitate improvement
- Line Management ownership
- Employee involvement and empowerment
- Recognition and celebration
- Challenging quantified goals and benchmarking
- Focus on processes / improvement plans
- Specific incorporation in strategic planning

This shows that TQM must be practiced in all activities, by all personnel, in Manufacturing, Marketing, Engineering, R&D, Sales, Purchasing, HR, etc.²

Principles of TQM

The key principles of TQM are as following:³

- Management Commitment
 1. Plan (drive, direct)
 2. Do (deploy, support, participate)
 3. Check (review)
 4. Act (recognize, communicate, revise)
- Employee Empowerment
 1. Training
 2. Suggestion scheme
 3. Measurement and recognition
 4. Excellence teams
- Fact Based Decision Making
 1. SPC (statistical process control)
 2. DOE, FMEA
 3. The 7 statistical tools
 4. TOPS (FORD 8D - Team Oriented Problem Solving)
- Continuous Improvement
 1. Systematic measurement and focus on CONQ
 2. Excellence teams
 3. Cross-functional process management
 4. Attain, maintain, improve standards
- Customer Focus
 1. Supplier partnership
 2. Service relationship with internal customers
 3. Never compromise quality
 4. Customer driven standards

The Concept of Continuous Improvement by TQM

TQM is mainly concerned with continuous improvement in all work, from high level strategic planning and decision-making, to detailed execution of work elements on the shop floor. It stems from the belief that mistakes can be avoided and defects can be prevented. It leads to continuously improving results, in all aspects of work, as a result of continuously improving capabilities, people, processes, technology and machine capabilities.

Continuous improvement must deal not only with improving results, but more importantly with improving capabilities to produce better results in the future. The five major areas of focus for capability improvement are demand generation, supply generation, technology, operations and people capability.

A central principle of TQM is that mistakes may be made by people, but most of them are caused, or at least permitted, by faulty systems and processes. This means that the root cause of such mistakes can be identified and eliminated, and repetition can be prevented by changing the process.¹

There are three major mechanisms of prevention:

1. Preventing mistakes (defects) from occurring (Mistake - proofing or Poka-Yoke).
2. Where mistakes can't be absolutely prevented, detecting them early to prevent them being passed down the value added chain (Inspection at source or by the next operation).
3. Where mistakes recur, stopping production until the process can be corrected, to prevent the production of more defects. (Stop in time).

Implementation Principles and Processes

A preliminary step in TQM implementation is to assess the organization's current reality. Relevant

preconditions have to do with the organization's history, its current needs, precipitating events leading to TQM, and the existing employee quality of working life. If the current reality does not include important preconditions, TQM implementation should be delayed until the organization is in a state in which TQM is likely to succeed.

If an organization has a track record of effective responsiveness to the environment, and if it has been able to successfully change the way it operates when needed, TQM will be easier to implement. If an organization has been historically reactive and has no skill at improving its operating systems, there will be both employee skepticism and a lack of skilled change agents. If this condition prevails, a comprehensive program of management and leadership development may be instituted. A management audit is a good assessment tool to identify current levels of organizational functioning and areas in need of change. An organization should be basically healthy before beginning TQM. If it has significant problems such as a very unstable funding base, weak administrative systems, lack of managerial skill, or poor employee morale, TQM would not be appropriate.⁵

However, a certain level of stress is probably desirable to initiate TQM. People need to feel a need for a change. Kanter (1983) addresses this phenomenon by describing building blocks which are present in effective organizational change. These forces include departures from tradition, a crisis or galvanizing event, strategic decisions, individual "prime movers," and action vehicles. Departures from tradition are activities, usually at lower levels of the organization, which occur when entrepreneurs move outside the normal ways of operating to solve a problem. A crisis, if it is not too disabling, can also help create a sense of urgency which can mobilize people to act. In the case of TQM, this may be a funding cut or threat, or demands from consumers or other stakeholders for improved quality of service. After a crisis, a leader may intervene strategically by articulating a new vision of the future to help the organization deal with it. A plan to implement TQM may be such a strategic decision. Such a leader may then become a prime mover, who takes charge in championing the new idea and showing others how it will help them get where they want to go. Finally, action vehicles are needed and mechanisms or structures to enable the change to occur and become institutionalized.⁶

Steps in Managing the Transition

Beckhard and Pritchard (1992) have outlined the basic steps in managing a transition to a new system such as TQM: identifying tasks to be done, creating necessary management structures, developing strategies for building commitment, designing mechanisms to communicate the change, and assigning resources.

Task identification would include a study of present conditions (assessing current reality, as described above); assessing readiness, such as through a force field analysis; creating a model of the desired state, in this case, implementation of TQM; announcing the change goals to the organization; and assigning responsibilities and resources. This final step would include securing outside consultation and training and assigning someone within the organization to oversee the effort. This should be a responsibility of top management. In fact, the next step, designing transition management structures, is also a responsibility of top management. In fact, Cohen and Brand (1993) and Hyde (1992) assert that management must be heavily involved as leaders rather than relying on a separate staff person or function to shepherd the effort. An organization wide steering committee to oversee the effort may be appropriate. Developing commitment strategies was discussed above in the sections on resistance and on visionary leadership.⁶

To communicate the change, mechanisms beyond existing processes will need to be developed. Special all-staff meetings attended by executives, sometimes designed as input or dialog sessions, may be used to kick off the process, and TQM newsletters may be an effective ongoing communication tool to keep employees aware of activities and accomplishments.

Management of resources for the change effort is important with TQM because outside consultants will almost always be required. Choose consultants based on their prior relevant experience and their commitment to adapting the process to fit unique organizational needs. While consultants will be invaluable with initial training of staff and TQM system design, employees (management and others)

should be actively involved in TQM implementation, perhaps after receiving training in change management which they can then pass on to other employees. A collaborative relationship with consultants and clear role definitions and specification of activities must be established.

In summary, first assess preconditions and the current state of the organization to make sure the need for change is clear and that TQM is an appropriate strategy. Leadership styles and organizational culture must be congruent with TQM. If they are not, this should be worked on or TQM implementation should be avoided or delayed until favorable conditions exist.

Remember that this will be a difficult, comprehensive, and long-term process. Leaders will need to maintain their commitment, keep the process visible, provide necessary support, and hold people accountable for results. Use input from stakeholder (clients, referring agencies, funding sources, etc.) as possible; and, of course, maximize employee involvement in design of the system.⁷

Always keep in mind that TQM should be purpose driven. Be clear on the organization's vision for the future and stay focused on it. TQM can be a powerful technique for unleashing employee creativity and potential, reducing bureaucracy and costs, and improving service to clients and the community.

Conclusion

TQM encourages participation amongst shop floor workers and managers. There is no single theoretical formalization of total quality, but Deming, Juran and Ishikawa provide the core assumptions, as a "...discipline and philosophy of management which institutionalizes planned and continuous... improvement ... and assumes that quality is the outcome of all activities that take place within an organization; that all functions and all employees have to participate in the improvement process; that organizations need both quality systems and a quality culture."

About The Author

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Footnotes And References

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