

## Total Quality Management

Total Quality Management was developed in the USA as a response to the increasing competitiveness of Japanese. It is an operations management system that creates structures within an organisation that satisfy internal and external customers and suppliers. It creates quality through continuous improvement, development of systems and products, and by creating an organizational culture of quality.

**TQM is a Management method that centres on Quality and on the long-term success of the organisation, through the satisfaction of the customers, as well as the benefit of all its members.**

For TQM to work it relies upon cooperation of all members of an organisation.

The pillars of Total Quality Management are unsurprisingly—**T Q M**

**T stands for Total** - It is the Integration of the Staff, Suppliers, Customers and other Stakeholders. These are all seen as part of a single system., an unbroken chain of production, a chain of quality.

**Q stands for Quality** - Quality can be the speed in which a service is delivered. It can be consistency. It can be innovation. It can be reflected in low maintenance or favourable repair history. Dr. W. Edwards Deming (one of the founders of the TQM system) says that "a product or service possesses quality if it helps somebody and enjoys a good and sustainable market."

**M for Management** - the leadership task is "Quality". The need is for management to improve processes and subsystems and to monitor them continually for improvement opportunities. The responsibility for ensuring the improvement of the processes and subsystems in an organization lies with top management. As part of the management of quality the system includes **Process Owners** who coordinate the various functions and work activities at all levels of a process, who has the authority or ability to make changes in the process as required, and manages the process end-to-end so as to ensure optimal overall performance

### How does TQM work in practice?

The challenge of TQM is to supply a product or service that customers want or need, that not only meets or exceeds their expectations but that can be produced or provided at an acceptable cost. The supplier needs to decide what to supply and what the right level of quality for that product or service should be. Once designed and created at the quality level desired, the key to maintaining or improving the quality of the product or service lies in the continual improvement of the processes of supply and manufacture.

TQM processes are divided into four categories: plan, do, check, and act (**the PDCA cycle**).

- In the **planning** phase, people define the problem to be addressed, collect relevant data, and ascertain the problem's root cause.
- In the **doing** phase, people develop and implement a solution, and decide upon a measurement to gauge its effectiveness.

- In the **checking** phase, people confirm the results through before-and-after data comparison.
- In the **acting** phase, people document their results, inform others about process changes, and make recommendations for the problem to be addressed in the next PDCA cycle
- Use of quality chains—each section in the chain whether internal or external must be treated as a customer
- Continual Process Improvement
- Develop cross-functional teams where processes involve internal customers

But attempts to achieve a system of TQM can fail because

In a manufacturing organization, TQM generally starts by sampling a random selection of the product. The sample is then tested for things that matter to the real customers. The causes of any failures are identified, and then these causes of the failure are corrected. One popular test is a "life test" in which the sample product is operated until a part fails. Another popular test is called "shake and bake". The product is mounted on a vibrator in an environmental oven, and operated at progressively more extreme vibration and temperatures until something fails. The cause of the failure is then identified and engineers design an improvement. Often a TQM based product is cheaper to produce (because there's no need to repair the end product), and can the quality of final output produces an immensely more marketable product.

## How to achieve TQM

To achieve a system of TQM a business needs;

- Top management commitment, understanding, and participation
- Focus on customer/supplier relationships
- Employee involvement in the decision-making process
- Team approach to product or service improvement;
- "Hope for instant success" —The transformation takes time and takes effort. There is no quick path to quality.
- The belief that automation, gadgets, and new machinery will transform industry, without focus on employees.
- Attempting to transform to a quality culture by copying other company's procedures is likely to fail. Theory can be transferred between firms but not the specifics of practice - everyone's problems are different
- The view that the quality control department takes care of all problems of quality—in this kind of company the wrong people are responsible for quality. Quality is the responsibility of the process operators and especially of management.
- Some firms view quality as zero defects but no process is without variation. The point is to continually reduce variation, but it is not to seek the impossible.
- Failure of management to communicate the aims of the organisation to all members of the organisation
- Failure to break down the traditional structure of the firm, functional departments must be linked in a customer/supplier relationship.