

TOTAL QUALITY MANAGEMENT/CONTINUOUS IMPROVEMENT

Cost-Effective Path to Prosperity and Growth for Businesses of all Sizes

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The competitive advantage of superior quality can be realised in any organisation through crisis or from a desire for excellence. Once the organisation identifies an opportunity for competitive advantage through the quality process it must then address the questions of implementation; how can the process be initiated and continued within an appropriate time frame and how can the necessary changes in culture, attitude, technology, procedure and measurement be instituted to provide the full potential of the process to customers, owners, managers, staff and site personnel alike? The concept of Total Quality Management (TQM) or Continuous Improvement (CIP) offers answers to these basic questions in a cost-effective manner which is appropriate to all levels of enterprise in all sectors of the economy. 'Cost-effective' is the 'bull point'; the decision to embark upon a TQM process must be based upon the same criteria as any other business decision. The thesis of this article is that TQM is not only cost-effective but revenue producing and essential to the survival and growth of any organisation. The truth of the matter is that the axiom 'Quality is Free' is only partly correct; the Deming chain reaction shows that quality and excellence actually generate increased revenue and therefore a TQM process will not only be self-supporting but revenue creating, making sound business sense for all business - the multi-national giant through to the one-man operator.

Traditionally, the techniques of TQM have to be applied, almost solely, to the manufacturing sector or that has been the general perception. The reason for this is probably because manufacturing has been perceived as the sector of the economy in greatest need of improvement or at greatest risk from foreign competition. This assumption, however, is false and is due to media concentration on the 'hot topic'.

SAM WAH, the Korean contractor, displacing traditional international constructing giants in Saudi Arabia does not gain the publicity of Toyota and General Motors but that displacement and its impact upon the economy is just as real; especially if you are the contractor that has been displaced! Coupled to the false perception that TQM belongs uniquely in the manufacturing arena is the equally false assumption that the techniques of TQM belongs there. This assumption is, in fact, just as false as the early World War I assumption that the primary purpose for the aeroplane in combat was one of spotter for the artillery! All that is required in the application of TQM techniques to any industry is understanding. The pressures are on all levels to gain this understanding and to improve. TQM is an appropriate tool for this because:

- All businesses composed of an inter-dependent chain of suppliers and customers (true for construction, manufacturing or service industries)
- The market place demands that all businesses are responsive to the needs of their customers
- All industry has been affected by lower productivity, increased litigation, more competition and adherence to traditional practices
- TQM provides a clear understanding of company standards and expectations
- TQM is focused on how an enterprise can better serve the customer through a search for excellence in every aspect of the operation.

A succinct definition of the TQM/CIP process is:

The strategy to achieve a high degree of excellence in ALL business functions through the continuing improvement process of eliminating waste and reducing variation.

This definition is supported by five principles:

- Customer Focus
- Co-operation
- Leadership
- Decisions based upon Data
- People

CUSTOMER FOCUS

The customer is the final arbiter of quality. However 'quality' is holistic; it is not just the 'physical' product or the service but 'quality' also covers estimating, bidding, drawings, design, contract review, stage payments and all the plethora of things that concern a customer of any company. Basically the question to be answered is:

'What does the customer see when they look at a business, what is the complete experience likely to be like?'

'Customer' also means the internal customer. The internal customer could be the next trade on the job, the next work centre or it could be the Accounts Department who need accurate information for invoicing. Consideration of the needs of the next process or procedure can save many expensive hours of unintentional and unnecessary rework - even if that rework is just good housekeeping like cleaning up after your own work!

CO-OPERATION

The temptation is always to buy on the price tag and then blame the sub-contractor or supplier for any problems, treating them as adversaries. Co-operation is about working with others to provide excellence for the customer (and to ensure repeat work) and, most especially, co-operation demands that people are not judged by factors they neither understand nor control.

LEADERSHIP

Lao-Tzu defined leadership [1]

*Of the best rulers
The people (only) know that they exist;
The next best they love and praise;
The next they fear;
The next they revile.*

*When they do not command the people's faith
Some will lose faith in them
And then they resort to oaths!
But (of the best) when their task is accomplished their
work done
The people will remark, "We have done it ourselves"*

Lao-Tzu and the modern quality movement are both talking about empowerment being the most effective form of leadership. Modern leadership is about training people, encouraging and allowing people to extend their utmost energies for the common good of the organisation. That means that all people should understand their respective roles in the organi-

sation and management provides this understanding by defining goals, aims and directions not by ex-cathedra judgements and diktats.

DECISIONS BASED UPON DATA

Objective decision making and especially decision taking are difficult processes therefore they are often ignored; it is much easier to be subjective and then rationalise about it when things fall apart! Objective decisions demand the collection and weighing of data and evidence; getting to the root cause of a problem and instituting a permanent solution.

PEOPLE

It is said that each society gets the police force that it deserves and the same is true with a company. Every organisation gets the people it deserves. Good leadership begets good and committed people; it really is frighteningly easy but the truth of the matter is that most people have an intrinsic pride in what they do if they are given half a chance.

The five basic foundation stones ensure that the customer gets a quality product. A quality product, service or result can be defined as:

'Meeting or exceeding the customer expectations the first time and everytime in the future'.

To achieve this end the five foundation stones are supported by six essential components:

- **Accuracy:**
How well the goods, structure or service provided meet customer expectations.
- **Consistency:**
Is the process under control. If so then the customers will know what to expect and the likelihood of getting what they ordered. If not then the customer is gambling.
- **Responsiveness:**
How well the organisation responds to questions, inquiries and how thoroughly these customer contacts are resolved.
- **Availability:**
How often were the goods or services delivered when the customer requested them; can the customer rely upon the organisation?
- **Perceived Value:**
To get a good deal is one thing; to believe that you have been fairly treated is quite different.
- **The Complete Experience:**
The person who pays the bill is not the only customer. The supplier must satisfy all members of a customer's organisation. The rest of the customer's organisation may not be decision takers in the future but, in all probability, they will have a say in the decision making.

A business that applies the five basic foundation stones to the business and pays attention to the six points listed above will gain in reputation, reduce costs and ensure continued growth and security. The problem is really 'where to start'?

The 'bad' news is that there is no panacea. What works for one company is unlikely to directly work for another; everyone is different. It is important that every organisation finds its own way into TQM for its own reasons. The 'good' news is that experience has pointed to a certain process that does work, a process with some clearly defined elements that help the organisation gain the self-knowledge to be successful. There are essentially five steps in this process:

- Quality Assessment
- Business Process Analysis

- Quality Strategy and Planning
- Implementation
- Measurement

QUALITY ASSESSMENT

If you do not know where you are then you cannot determine any future direction, goal or improvement. The Quality Assessment, the vital first step, measures the company as it is today. The Cost of Quality, defined as the total of all costs resulting from the prevention, detection and correction of defects both internationally and externally is determined and this gives the basis for measurement and for estimating potential benefits, savings and priorities. The assessment also attempts to gauge the attitudes of the external and internal customer towards the organisation and this too, can indicate areas which should be given immediate attention. The Cost of Quality concentrates upon disclosing the 'invisible' numbers and making the 'visible' numbers, gleaned from the financial accounts, a meaningful tool for operation management. To do this the Cost of Quality concentrates attention upon four areas of the business:

- **Prevention Costs:**
These are the 'good' costs and indicate the effort the company makes to prevent problem situations. For example, prevention costs cover training, customer surveys, work done to prepare a project with the customer before ground is broken.
- **Appraisal Costs:**
These are the costs of control, the costs the contractor incurs by ensuring quality through inspection. An example of a costly appraisal process is the punch list.
- **Internal Failure:**
These are costs created by problems that are caught before the customer finds out; usually highlighted by budget overruns or late penalty payments.
- **External Failure:**
The second cost of failure but probably the most serious from the point of view of reputation and repeat work. These are the costs the organisation incurs to put right something that the customer discovers. The obvious ones are warranty work and claims, but this is an area that the small business must watch particularly carefully. The large company, working on a big project, has time to repair customer confidence for the future, the small business does not enjoy that degree of flexibility. It is vitally important that the customer of a small builder knows that the job will be done right the first time and everytime. Why? Simply because there are a lot of small businesses vying for every project and small business grows big by satisfying the customer.

The Quality Assessment is, essentially, an internal benchmark and indicator of the state of the organisation, the perceptions of its customers and the attitudes of its people.

BUSINESS PROCESS ANALYSIS

The Business Process Analysis has a number of key goals:

- How effective are customer expectations met?
- To identify, document and analyse key business processes.
- To identify process improvements.
- To show potential savings and financial impact.
- Base for strategic and tactical planning.

To meet these key goals the Business Process Analysis Process is a method for documenting, analysing and improving processes: essentially a vehicle for understanding what the organisation does, how it does it, what the customer sees and how things could be improved. A basic purpose of BPA is to separate the 'wheat from the chaff'; to identify the activities of the organisation that the customer would pay for (termed Customer Value Added Activities) and to look at ways to eliminate or reduce activities that the customer would not pay for (termed Non-Value Added Activities). It is essential neither to mechanise nor institutionalise waste !

QUALITY STRATEGY AND PLANNING

This part of the process produces the 'roadmap' and must look at anything from 5-10 years. The first step is a 'visioning' process; the owners and/or senior executives in the organisation determine their quality and organisational goals by developing a mission statement for the company and a long term vision. The visioning process suggests answers to strategic questions like:

- 'Why are we in business'?
- 'What do we want the business to be in 5, 10, 15 years'?

The second part of the process is for the company management, in consultation with the executives and staff, to determine how the goals are going to be achieved. This process should be as broad-based as is practical and possible with constant feedback to gain the maximum amount of buy-in from everyone in the organisation. Measurement criteria should be determined in order to chart progress or highlight regression. This planning must be sincere, it produces the charter for the company and must be taken seriously by all involved.

IMPLEMENTATION

*To learn the age old lesson day-by-day;
It is not in the bright arrival planned.
But in the dreams men dream along the way
They find the Golden Road to Samarkand.*

The start of a journey which will carry the company to ever greater heights of improvement. The quality journey is like the Golden Road to Samarkand; the pay-offs are in the journey. The quality journey, however, never finishes because customer expectations are continually increasing. There are five broad areas to consider in implementation:

1. Technology
2. Structure
3. Business Process Analysis
4. Process
5. Culture

● Technology:

This is probably the least important area in the long run but involves things like investment in new technology (ie. Computer Aided Design). All investment must fit into the overall plan.

● Structure:

The structure of the organisation will, probably, have to change. The organisation must change from a series of functional silos, each silo manager jealously guarding their particular fief, into a process that services the needs of the customer. Reward and recognition systems should reflect the contribution made towards achieving the TQM process and management by fear or management by silly numbers should be replaced with co-operation, commitment and involvement.

● Business Process Analysis:

The process started in Phase 2 should be continued by all the people in the organisation who will look at all the areas of the organisation's business to ferret out and eliminate waste and inefficiency.

● Process:

This is the quality 'mechanics' area of implementation; the introduction of ideas like supplier certification, trade testing, measurements and job reporting systems, like Activity Based Costing, which show the real state of things.

● Culture:

This is the most difficult area to approach. The culture of the organisation must change so that all who work there have a stake in the success of the enterprise and an understanding of their contribution to that success. You cannot measure people on what they do not understand nor on what they cannot control!

MEASUREMENT

If an organisation does not measure its progress then there is no progress. Measurement systems must be 'real', fair and based upon requirements that are important to the customer. Feedback to all must be accurate and timely and understandable to all. The most effective measurements are those that utilise internal benchmarks; a company measures itself against itself over a period of time and looks for improvement. If there is no improvement then the root cause should be determined and corrective action taken. If there is improvement again the real reasons for that improvement should be sought and steps taken to institutionalise them to effect continued improvement.

A TQM journey is not easy nor is it a course that should be taken lightly. If the management of the company does not truly believe in the process or sees it as a 'programme' then it should not be started; starting this process increases the expectations of both the internal and external customer and failure to meet those expectations will result in dysfunctional behaviour, poor morale and lost customers; from those to whom much is given much is expected. However, the thrilling news is that when the TQM process is approached with commitment and enthusiasm the results over time are nothing short of incredible; all organisations can benefit and so can their customers. TQM is a truly WIN-WIN process everyone gains and the cake is infinite because nobody loses. The savings and revenues produced by the process go directly to the bottom line because it is money the company is either wasting or ignoring already; the enhanced profitability of the company means greater job security for the employees and greater return on investment for the owners. All laudable aims are made more attractive by the fact that their achievement makes the company stronger and more competitive!

REFERENCE

- [1] Lao-Tzu, The Wisdom of Laotze

About the Author

Thomas Gordon is a British manufacturing consultant resident in Kansas City, Missouri, USA. A graduate of the University of Leeds, he is a member of BPICS and APICS and an observer to the USA TAG for ISO9000.

Thomas Gordon is involved in working in the field of TQM/Continuous Improvement (CIP) and ISO9000 with a number of companies predominantly in the mid-west of USA with an emphasis on manufacturing and construction companies.