

**CONTINUOUS IMPROVEMENT** ..... does it ever end?

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Issue 2

### CONTINUOUS IMPROVEMENT ..... does it ever end?

Does continuous improvement ever end? The answer is of course no. For many organizations continuous improvement is an inherent part of the way it goes about doing its business. Organizations that have reached a level of maturity in which continuing quality improvement is part of the company ethos have more than likely resolved many of the problems associated with the 'management of change'. These organizations have realised the importance of alignment with the external environment. To achieve congruence between the environment, organization resources and values, demands a strategic perspective. This perspective must be clearly focused on the customer and the dynamics of the external environment. Customer focus must result in creating an internal environment that is proactively engaged in 'delighting the customer'.

The operations manager has a major responsibility for ensuring continuous improvement is clearly focussed on the customer. S/he will be responsible for the effective and efficient utilization of people and processes that transform resources into products and services. Not only will products and services need to be improved as they move through their life cycle, but new key success factors will emerge as customer expectations rise. Delighting customers is for life. Organizations must be continually focused on exceeding their expectations. The challenge is therefore to create a perpetual organization environment of continuous improvement.

Cultures of continuous improvement evolve. The rate of evolution is very much dependent on the leadership qualities of the organization. Five stages of evolution are identified at figure 1. The degree of management commitment and the necessary 'change process skills' that are required rise as organizations move from one stage to the other. Stage 1 represents an organization that has no focus with regard to the needs of the customer. Product and service quality is variable. There is little attempt at setting or maintaining standards. At the other end of the continuum are fully mature organizations. An organization that has reached level 5 is strategically engaged in continuous improvement. At this level, the management team and employees are actively engaged in the process of change, going beyond pure product and service improvements by breaking through to superior levels of performance.

There are two main approaches to improving business performance

#### **A. Continuous quality improvement programs**

Continuous quality improvement programs are generally associated with small incremental changes. Robbins & Coulter (2002:350) state ..... "These programs are comparable with the calm waters metaphor because they recognize that organizations must continuously find ways to navigate the problems that arise as they strive to improve. In these types of quality programs, the change efforts are focused on fixing and improving *current work activities*".

### CONTINUOUS IMPROVEMENT ..... does it ever end?

This type of improvement program will in general be looking at ways in which product and service standards can either be brought back to standard or changes made that improve a specific aspect of the process, product or service. These programs go beyond *firefighting* the symptoms, and identify root causes of the problem. Identification of root causes however does not always result in elimination of the cause. These types of program are often limited in scope, because of lack of support from those that control resources. Continuous quality improvement programs tend to be concerned more with maintaining the standard rather than breaking through to much higher standards of performance.

#### B. Breakthrough improvement

Real improvement however demands a different mindset - a 'breakthrough' approach, aligned with the dynamics of the environment. The second approach is to view continuous improvement as a strategic necessity. This often involves process re-engineering. Robbins & Coulter (2002:350) articulates this new perspective..... "In today's white-water rapids world, however, where long-term marketplace success increasingly belongs to the flexible and adaptive organization, there's a need for a different approach to change. Turbulent times require revolutionary, not orderly, change. And process re-engineering is about dramatic and radical shifts in the way the organization performs its work – that is, its work processes. It focuses on quantum changes by throwing out the old ways of doing things and starting over in redesigning the way work is done. It involves defining customer needs and then designing work processes to best meet those needs".

Identifying competitive performance is one of the first stages to consider. Slack *et al* (2002:606) identifies a nine-point scale as a means of judging the relative importance of its competitive factors from 'order winners' to less important competitive issues. He also provides a nine-point scale for judging performance against competitors. Benchmarking is an area that we will discuss later. For the time being though it is important to understand that continuous quality improvement must have a customer focus. The question to ask is ..... "what effect will this proposed improvement initiative have on meeting customer needs? Slack *et al* (2002:610) states ... Breakthrough improvement (or 'innovation-based improvements as it is sometimes called) assumes that the main vehicle of improvement is major and a dramatic change in the way the operation works. The introduction of a new, more efficient machine in a factory, the total redesign of a computer based hotel reservation system, and the introduction of a new and a better degree programme at a university are all examples of breakthrough improvement".

There are therefore differences between 'breakthrough' and continuous improvement programs. Slack *et al* (2002: 613) states ... "Breakthrough improvement places a high value on creative solutions .....while .....continuous improvement is less ambitious, at least in the short term".

CONTINUOUS IMPROVEMENT ..... does it ever end?

Figure 1 Evolution of organization focus on customer satisfaction.

Level	Evolution.	Management involvement and customer focus	Level of improvement activity
1	<b>No inspection</b>  No activities performed to determine whether standards are being met.	No one is responsible for setting and maintaining standards. No customer focus	Firefighting / quick fixes
2	<b>Dedicated inspection</b>  Activities to check the final product or service	Supervisor appointed to 'control' quality. Limited customer focus.	After the event. The problem manifests itself in the final product or service. All that can be done is to replace the product or apologise for poor service.
3	<b>Quality systems approach</b>  ISO 9001 for example. Organization quality policy and procedures issued. Quality management system audited by independent certification organizations such as British Standards Quality Assurance.	Middle management level.  Quality manager is responsible for maintaining the quality system.	Superficial and prescriptive.  Quality improvement program has little scope for major 'breakthroughs' in organization performance. System maintenance is the main activity rather than quality improvement.
4	<b>Total Quality Management</b>  TQM approach involves understanding the needs of the customer and interdependence with suppliers.	Company wide involvement focused on the customer. All personnel are responsible for quality. The Quality Manager is a facilitator of quality improvement.	Continuous improvement. Prevention mindset - by designing quality into the product. Team orientated approach to improvement activities.
5	<b>Strategic Quality Management</b>  SQM approach involves very close working relationships / collaboration with the customer and the supply chain. The organization engages the dynamics of the environment proactively and in some cases reactively. The organization has learned how to respond to environmental forces.	The Quality Director jointly formulates and facilitates the implementation of strategies to improve business performance.  The Operations Manager is responsible for quality at the functional level and is supported by the Board of Directors. All employees are actively engaged in the improvement process. The process of change is part of the organization culture.	Process based. Quality improvement is a strategic issue. Processes are re-engineered proactively to mirror the demands of the environment.  Improvement is focussed on 'breakthrough'. New levels of product and service are continually sought.  The organization are experts at the management of change

### CONTINUOUS IMPROVEMENT ..... does it ever end?

We will begin by exploring the basics of product and service quality as a foundation for both continuous improvement programs and breakthrough improvement.

#### Quality does not happen by accident .....it must be made to happen!

Quality must be planned, organised, led and controlled in order to achieve organisation goals.

- The ultimate responsibility for *product fitness for use* rests with top management, who are responsible for the performance of the organisation
- These top managers can, and do delegate to middle managers, including the operations manager, the responsibility for carrying out those activities, which make up the quality function. However, they may not delegate accountability.
- Top management establish quality policy, which will play a major role in fulfilling overall organisation goals/objectives.
- The planning, organising, leading, control and implementation of quality policy and specific objectives are usually delegated to the quality function.
- A quality management system such as ISO 9001 is a foundation for continuous and breakthrough improvements.
- The quality system must be designed to enable accurate and timely information to be reported and analysed in order that timely and effective corrective action can be taken.
- The Quality Manager is responsible for communicating with top management the status of product quality and service within the organisation.
- Many organizations adopt both product and system certification schemes which are independently assessed by third party organizations such as British Standards Quality Assurance, Lloyds, SGS Yardsley and a host of international organizations including the **State Supervision and Inspection of Product Quality (SSIPQ)**.
- The quality management system is such that if followed, will give confidence to top management (and customers through third party certification), that it's quality policy and ultimately the organisations goals and objectives will be achieved.

### CONTINUOUS IMPROVEMENT ..... does it ever end?

- o The activity of supplying this confidence to top management is called 'Quality Assurance'.
- o The definition of Quality Assurance is .....*all those planned and systematic actions necessary to provide adequate confidence that a product or service will satisfy given requirements for quality.*
- o The definition of Quality Management is .....*that aspect of the overall management function that determines and implements the quality policy*
- o The quality function relies heavily on - good planning, good communication, a motivated and trained workforce, clearly defined responsibilities and accountability, audit and review.

#### Quality Management is concerned with:

- o Managing Resources...the efficient production of products, elimination of waste such as rework, repair, customer returns, complaints, unnecessary operations etc. In other words, *process effectiveness and efficiency.*
- o Managing People ...the effective utilisation of human skills, directed towards meeting customer requirements
- o Managing Requirements ...such as ISO 9001, legislative requirements such as Health and Safety and Environmental regulations.

#### The manager responsible for facilitating quality activities requires:

- o Technical Skills ...to identify and resolve quality problems
- o Human Skills ...to communicate and motivate effectively, and to lead the organisation in pursuit of satisfying customer requirements
- o Conceptual Skills...to enable him/her to see the organisation holistically and to understand how 'quality actions' will affect overall objectives from a strategic perspective.

### CONTINUOUS IMPROVEMENT ..... does it ever end?

#### Discussion Points

Your company wishes to become 'world class' in terms of product and service quality. You wish to delight your customers and occupy a world-class presence.

1. What do you feel are the key success factors in achieving world-class performance?
2. Discuss how the organization culture, and in particular style of management, affects the pursuit of world-class product and service quality.
3. How do the theories of Taylor, Mayo, Maslow and McGregor apply to continuous improvement programs?
4. How would you approach the task of taking an organization from stage 1 to stage 5 as outlined at figure 1.

Visit the following web site for details about the work of Taylor, Mayo etc.

Before we can improve product and service quality, we first of all need to define what quality is.

The basic definition of quality is 'fitness for purpose or use' (Joseph Juran). Other eminent champions of quality give the following definitions:

- o A product or service's nature or features that reflect capacity to satisfy express or implied statements or need (Deming)
- o Product and service characteristics as offered by design, marketing, manufacture, maintenance and service that meet customer expectations (Feigenbaum).
- o A perceivable (and measurable) move from the mere satisfaction by a customer to "delight and reputation for excellence" Customer expectations are consistently met with an after-glow of well being (Oakland).

Visit the following web site for ..... 'What the Quality Gurus contributed to business improvement and cost reduction': <http://www.murtongroup.com/qgurus.htm>

Improving the way in which the organization performs its business, demands a return to basic quality principles. These are outlined on the following pages.

## CONTINUOUS IMPROVEMENT ..... does it ever end?

Customers, standards and quality assurance.



**Figure 2** Customers, Standards and Quality Assurance

### Customers:

The internal customer  
The external customer  
All stakeholders

### Standards:

All employees should be clear as to the boundaries of expected performance. In a manufacturing organization this will include manufacturing specifications with design tolerances that are set within the capabilities of the manufacturing process. In a service organization, the process should be clearly defined to ensure there is consistency in the way a task is performed.

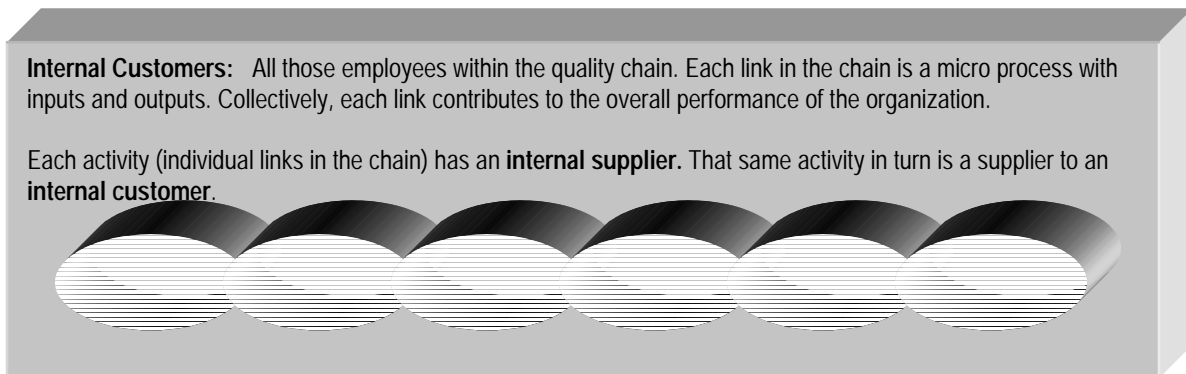
### Quality:

The features and characteristics of a product or service that bare on its ability to satisfy a given need.

### Assurance:

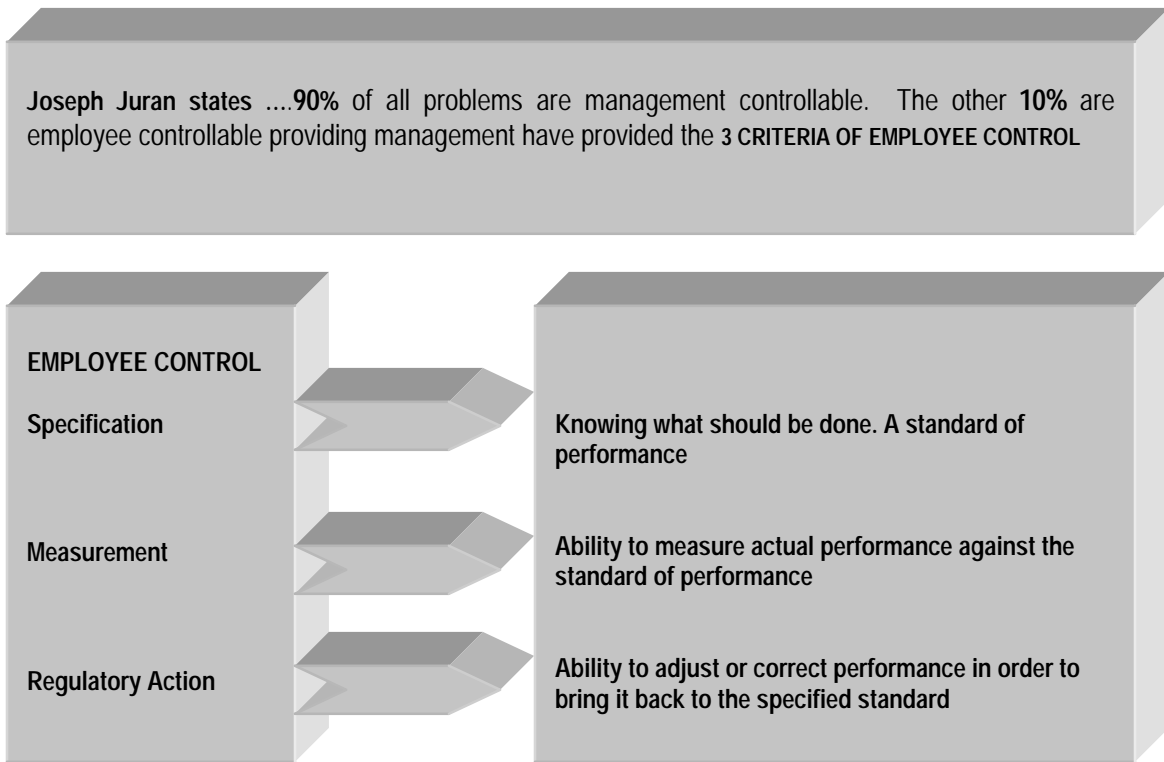
The ability of an organization to demonstrate that it is satisfying the needs of the customer.

**Figure 3** The principle of the quality chain – internal customers and suppliers

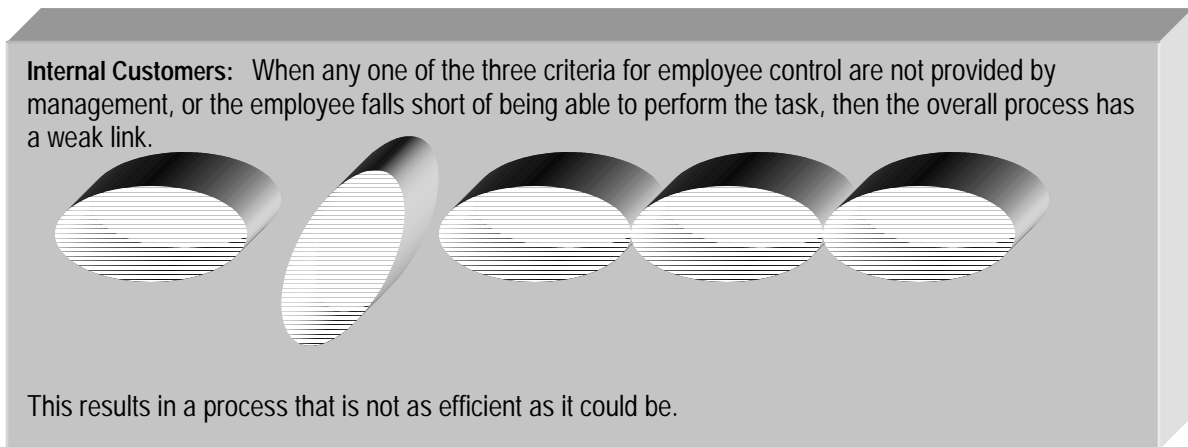


## D1 INTRODUCTION TO QUALITY

### CONTINUOUS IMPROVEMENT ..... does it ever end?



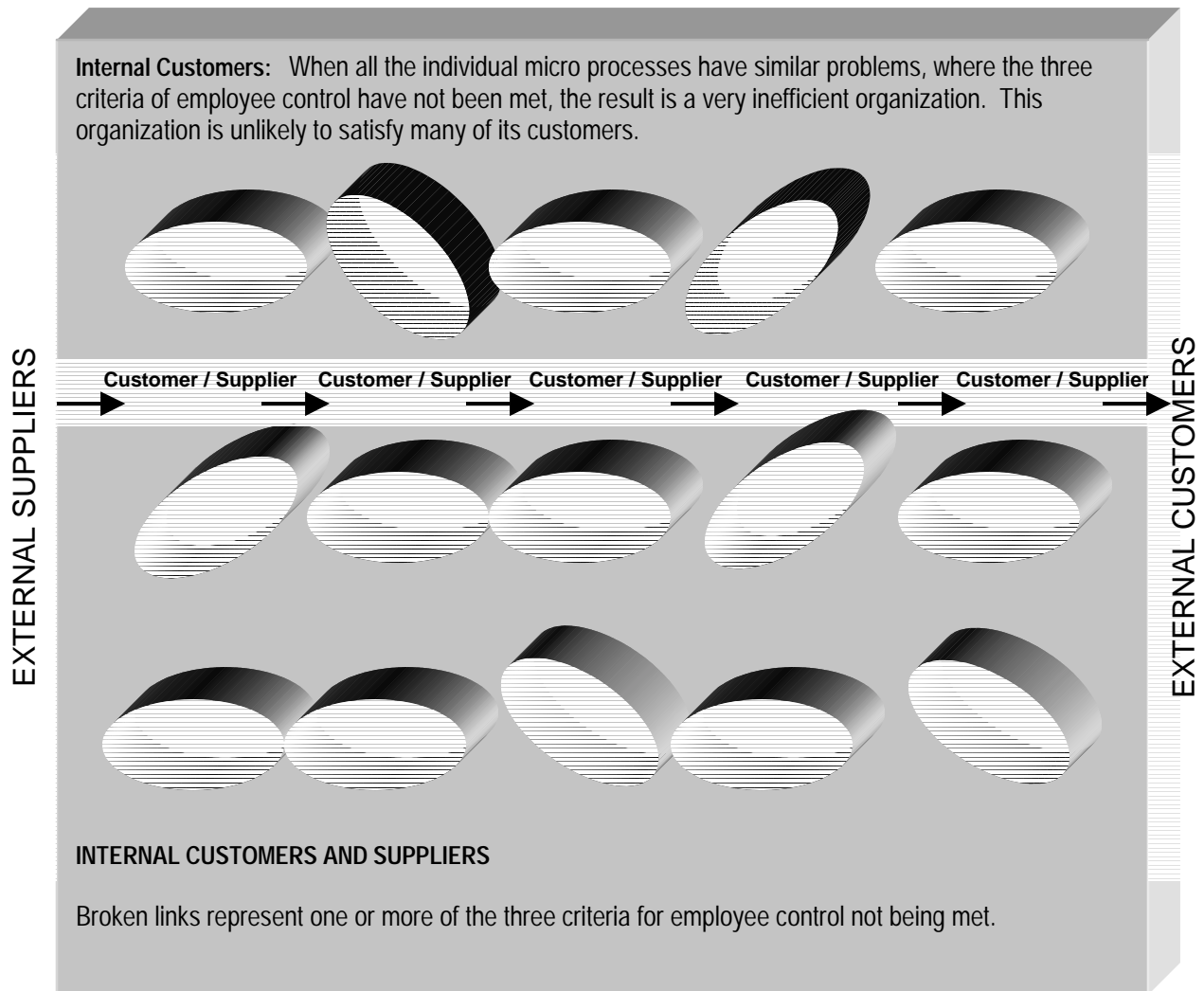
**Figure 4** The principle of employee control



**Figure 5** Broken link in the quality chain – one or more of the criteria for employee control not met

CONTINUOUS IMPROVEMENT ..... does it ever end?

The operations manager must ensure that each micro process / activity is analysed to identify who the internal customers and suppliers. Each operation should have specifications and standards, the means to measure against the standard and the means to take regulatory action should the operation begin to drift away from the standard. Once the three criteria for employee control have been met it is the responsibility of the employee to produce the product or service to the specified standard.

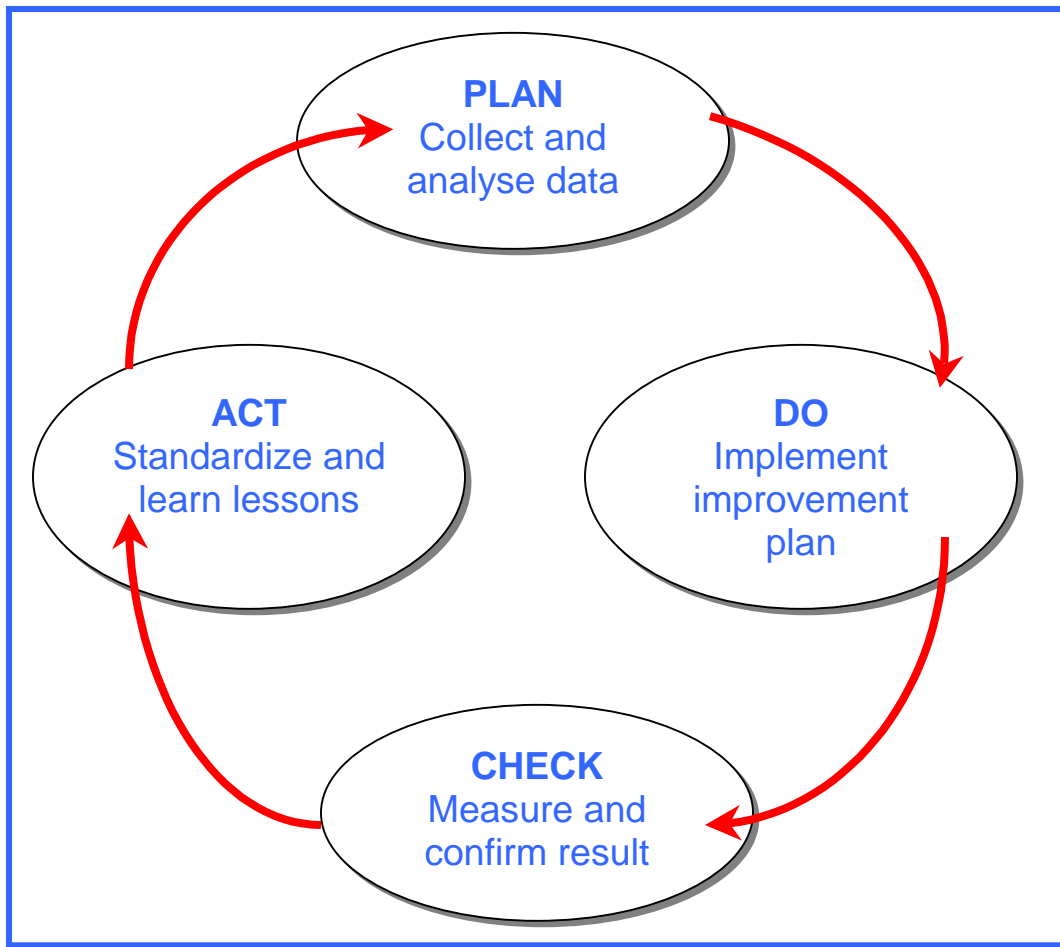


**Figure 6** Broken links in the quality chain – an inefficient organization The result – dissatisfied customers

**CONTINUOUS IMPROVEMENT** ..... does it ever end?

THE CYCLE FOR IMPROVEMENT

In any improvement initiative there needs to be some logical approach to how improved performance will be achieved. The most common model for continuous improvement is the PDCA cycle which is illustrated below.



Adapted from Slack (2002:614)

See Slack page 613 – for details of continuous improvement tools and techniques.

### CONTINUOUS IMPROVEMENT ..... does it ever end?

Before any improvement program is initiated it is important to establish a policy for quality. The organization should implement a quality management system such as ISO 9001 to give it a foundation from which continuing improvement can be built. To use the following metaphor as an example. When climbing Mount Everest, the team will set up a base camp from which the assault will start. The walk to base camp has already acclimatized the team to the rigours of the environment. If the going gets tough, the team will return back to base camp from which a further attempt will be made at the earliest opportunity. A quality management system such as ISO 9001 is the base camp for improvement.

ISO 9000 is a generic name given to a family of standards developed to provide a framework around which quality management systems can effectively be implemented. **ISO 9001:2000 is a process approach to quality management and continuing quality improvement.**

ISO 9001: 2000, the requirement standard, includes the following main sections:

#### 1. Quality Management System

The Quality Management System (QMS) is the collection of processes, documents, resources, and monitoring systems that direct the work of an organization regarding product and service quality. The organization needs to establish, document, carry out, and maintain this system to meet the requirements of ISO 9001:2000.

#### 2. Management Responsibility

The Standard recognizes that an effective quality program requires the involvement and commitment of the organization's top management. Therefore, the Standard assigns top management the following responsibilities:

- Overseeing the creation of the Quality Management System (QMS),
- Communicating the importance of meeting requirements, including customer, legal, and regulatory requirements,
- Establishing the [quality policy](#) and the [quality objectives](#),
- Communicating with parties responsible for product and service quality,
- Providing adequate resources for the operation of the QMS
- [Reviewing](#) the operation of the QMS.

#### 3. Resource Management

Provide the people, equipment, tools, and materials need to:

- build and maintain the QMS,
- continually improve the effectiveness of the QMS, and to
- meet customer requirements

### CONTINUOUS IMPROVEMENT ..... does it ever end?

#### 4. Product Realization

Product realization is the term used to describe the work that the organization goes through to develop, manufacture, and deliver the finished goods or services. An effective Quality Management System (QMS) includes a comprehensive approach to getting from the product concept to the finished product. This approach, sometimes called a *quality plan*, includes the following:

- product requirements and [quality objectives](#),
- creation of the processes, documents, and resources needed for product realization,
- required verification, monitoring, inspection, and test activities,
- the [records](#) to be kept.

#### 5. Measurement Analysis and Improvement

Plan and carry out the inspection, test, measurement, analysis, and improvement activities needed to:

- assure product meets product requirements,
- assure the QMS works as planned,
- improve the operation and results from the QMS.

See **appendices** for a schematic representation of how the organization mission relates to continuous improvement and management review.

For a full summary of all clauses of this standard visit:

[http://www.isoeasy.org/2000%20Summary/reg\\_4-0.html](http://www.isoeasy.org/2000%20Summary/reg_4-0.html)

Visit the British Standard Institute web site for details of how to implement ISO 9001:2000

<http://www.bsi-global.com>

**Other useful related sites are:**

Preparing a quality assurance manual

<http://www.quality.co.uk/example/manual.htm>

Quality Policy Gallery – examples of policy statements

<http://www.isoeasy.org/qpgallery.htm>

### CONTINUOUS IMPROVEMENT ..... does it ever end?

In practice, many organizations approach business improvement through a combination of:

1. Firefighting – fixing the immediate problem
2. Kaizen – small incremental improvements, managed at the local level
3. Continuous improvement programs – facilitated by middle management
4. Breakthrough improvement – facilitated at the strategic managerial level

#### 1. FIREFIGHTING

Firefighting the problem is neither effective nor efficient. However, we have all experienced urgent problems that needed an immediate 'fix', but we know in our hearts that the same problem is more than likely to reoccur in the not to distant future. Some authors have argued that this 'chaos' approach to management has its advantages. They would argue that getting the task completed by 'fixing' problems as and when they arise is a far more productive than spending time trying to analyse how the problem could be improved.

Suggest alternative approaches to firefighting problems?

## D1 INTRODUCTION TO QUALITY

### CONTINUOUS IMPROVEMENT ..... does it ever end?

#### 2. KAIZEN

The second approach to improving business performance is through an approach known as Kaizen. ... "Kaizen means improvement. Moreover, Kaizen Kaizen means continuing improvement in personal life, home life, and working life. When applied to the workplace Kaizen means continuing improvement involving everyone – managers and workers alike" (Masaaki Imai from his book KAIZEN, the key to Japan's Competitive Success).

The Kaizen approach is a relatively informal culture of continuous improvement. There are two elements that construct Kaizen.

- o Improvement / change for the better
- o Ongoing / continuity

The Kaizen Institute state .....

"Kaizen should be implemented by the lower/middle management and the workers, with the encouragement and direction of the top. The top management responsibility is to cultivate Kaizen working climates and cultures in the organization".

The principles of Kaizen are:

1. Discard conventional fixed ideas
2. Think of how to do it, not why it cannot be done
3. Do not make excuses. Start by questioning current practices
4. Do not seek perfection. Do it right away even if for only 50% of target
5. Correct it right away, if you make a mistake
6. Do not spend money for Kaizen, use your wisdom
7. Wisdom is brought out when faced with hardship
8. Ask "WHY?" five times and seek root causes
9. Seek the wisdom of ten people rather than the knowledge of one
10. KAIZEN ideas are infinite

Visit <http://www.kaizen-institute.com/kzn.htm>

**CONTINUOUS IMPROVEMENT** ..... does it ever end?

3. CONTINUOUS IMPROVEMENT PROGRAM

Continuous improvement programs often fail because:

- o They are imposed from above
- o There is a lack of 'ownership'
- o There is a lack of clear objectives for the programme
- o There is fear and the status quo is threatened
- o There is resistance to change
- o Quality improvement is perceived as expensive

(White, 1996:10-11). White states .... "But what happens if the program is handled correctly? Then it becomes a strategy for survival – it becomes the driving force for the evolution of the company". Continuous improvement should be thought of in business terms. It should concentrate its efforts on chosen key success factors through what White states as ... "focusing on the better leadership of people and the improved management of business processes."

The following Continuous Quality Improvement (CQI) program is proposed by White (1996:87-89)

**Table 1** Continuous Quality Improvement program

	<b>Phase I Commitment and Development</b>
1.1	Senior management buy-in and personal commitment to the programme
1.2	CQI programme leader identified to be responsible for the implementation of the programme
1.3	Resources formally dedicated to the CQI program
1.4	CQI team identified and recruited
1.5	Benchmarking indicators established
1.6	Benchmarking research (surveys, etc.) carried out
1.7	Establishment of feasible goals for incremental benchmark improvements
1.8	Development of CQI Master Plan

## D1 INTRODUCTION TO QUALITY

### CONTINUOUS IMPROVEMENT ..... does it ever end?

	<b>Phase II Involvement and Assimilation</b>
2.1	Formal CQI awareness and accountability is pushed down through all management levels
2.2	All managers have CQI goals and objectives
2.3	Senior management are personally involved in highly visible and meaningful CQI activities
2.4	CQI communications strategy and tactics fully implemented
2.5	Action plans for all CQI dimensions are established and actively implemented
2.6	Quality circles and quality teams are established in all departments
2.7	Comprehensive quality goals are established for each work team and a monitoring process established with monthly reporting
2.8	CQI team have visited and trained, where necessary, all departments within the company

	<b>Phase III Maturity</b>
3.1	Re-benchmarking surveys have taken place after 18 months covering all dimensions
3.2	New CQI incremental goals have been established
3.3	The results of the re-benchmarking have been communicated to all members of management and the workforce by senior management in group meetings
3.4	Action plans have been reviewed, modified and implemented
3.5	Comprehensive quality goals in each team are reviewed, modified and re-established
3.6	All managers now have CQI goals as part of their personal objectives
3.7	CQI 'Quality Awards' are established and the criteria made known to everyone – first awards made
3.8	Best practice standards have been fully implemented and reviewed for completeness and application

CONTINUOUS IMPROVEMENT ..... does it ever end?

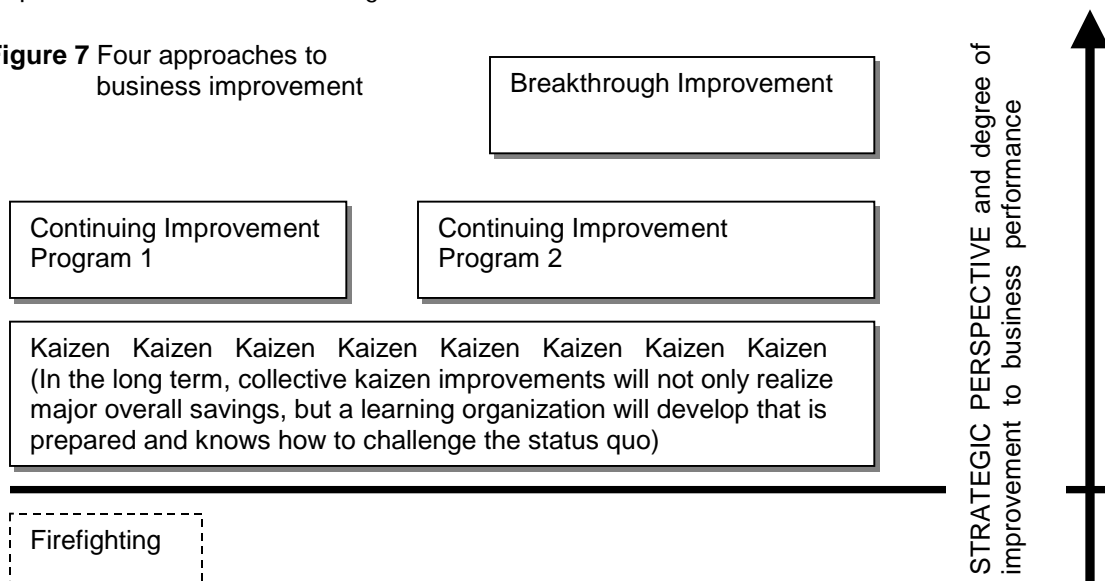
Phase IV Maintenance	
4.1	All milestones in Phase I – III have been fully met
4.2	Re-benchmarking surveys are run every 18 months, results disseminated, and the new CQI incremental goals established
4.3	New action plans developed and implemented
4.4	CQI is now a way of life – new CQI tools are continually developed and used, the program is self-perpetuating, the CQI team has been reduced to an oversight group, formal CQI reviews take place and new budgets are allocated as necessary

Source: White (1996:87-89)

3. BREAKTHROUGH IMPROVEMENT

Breakthrough improvement demands a strategic approach to improving business performance. The problem with continuous quality improvement programs is that they are often middle management led and do not have a strategic perspective. Breakthrough improvement involves re-engineering the process. To initiate radical changes often requires investment in new technology as a driver of change. The management of change is critical if breakthrough strategies are to be successful. The operations manager has a major part to play in the formulation and implementation of change strategies that realise a breakthrough in performance. The four approaches to 'improvement' are illustrated at figure 7.

Figure 7 Four approaches to business improvement



## D1 INTRODUCTION TO QUALITY

### CONTINUOUS IMPROVEMENT ..... does it ever end?

Improving business performance is not an option. A culture of improvement must be at the heart of the organization. The operations manager must develop his team to enable opportunities for improvement to be realized. Is your organization ready for breakthrough improvements or do you get a buzz out of firefighting daily problems? Four types of improvement team are identified in table 2. Which one best describes your organization?

1. PEDESTRIANS are *firefighters* and *quick fixers*. The pedestrian team like the thrill of dodging the traffic in the middle of a busy city.
2. HILL STROLLERS are the Kaizen team, fit and able to walk all week, strolling through the rolling hills and fields.
3. FELL WALKERS are the continuous improvement team who have clear objectives and milestones as they walk the highest fells.
4. MOUNTAINEERS – the breakthrough team. Being a mountain climber is not for the weak hearted. Experienced mountain climbers have learned how to breakthrough from 2000 ft high fells to 20,000 ft mountains.

Which of the above best describes your organization commitment to business improvement?

Team Type	Improvement type	Your organization ✓
PEDESTRIANS	Firefighting	
HILL STROLLERS	Kaizen approach to improvement	
FELL WALKERS	Continuous improvement programs	
MOUNTAINEERS	Breakthrough – strategic improvement	

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**Perhaps its time to review the approach your organization is taking.**

## D1 INTRODUCTION TO QUALITY

### CONTINUOUS IMPROVEMENT ..... does it ever end?

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#### Links

Everything you would want to know about **Continuous Improvement**  
[http://www.mapnp.org/library/quality/cont\\_imp/cont\\_imp.htm](http://www.mapnp.org/library/quality/cont_imp/cont_imp.htm)

The **Total Quality Management** free article library  
<http://www.work911.com/tqmarticles.htm>

Operations Management by Slack et al  
<http://www.booksites.net/slack>

Management by Robbins & Coulter  
<http://www.prenhall.com/robbins>

Strategic Management by Thompson  
<http://www.thomsonlearning.co.uk>

How to carry out a Continuous Improvement project  
<http://www.eagle.ca/~mikehick/continue.html>

Ten tips for beefing up your problem solving toolbox  
<http://home.att.net/~nickols/tentips.htm>

The Problem The Solution The Outcome  
<http://www.ss-designs.com/gms/orgcult.htm>

## D1 INTRODUCTION TO QUALITY

### CONTINUOUS IMPROVEMENT ..... does it ever end?

#### Appendices

#### Appendix

1. ISO 9001: 2000 – link to continual improvement and management review

CONTINUOUS IMPROVEMENT ..... does it ever end?

Appendix 1

ISO 9001: 2000 - link to Continual Improvement & Management Review

