About Topic Gateways

Topic Gateways are intended as a refresher or introduction to topics of interest to CIMA members. They include a basic definition, a brief overview and a fuller explanation of practical application. Finally they signpost some further resources for detailed understanding and research.

Topic Gateways are available electronically to CIMA members only in the CPD Centre on the CIMA website, along with a number of electronic resources.

About the Technical Information Service

CIMA supports its members and students with its Technical Information Service (TIS) for their work and CPD needs.

Our information specialists and accounting specialists work closely together to identify or create authoritative resources to help members resolve their work related information needs. Additionally, our accounting specialists can help CIMA members and students with the interpretation of guidance on financial reporting, financial management and performance management, as defined in the CIMA Official Terminology 2005 edition.

CIMA members and students should sign into My CIMA to access these services and resources.

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Definition

Definitions of quality include:

‘Fitness for use.’

Joseph Juran

‘The totality of features and characteristics of a product or service that bears on its ability to meet a stated or implied need.’

ISO 9000

‘The only true measure of acceptable quality is customer satisfaction, which takes into account both objective and subjective interpretations of the needs and expectations of customers.’

Chartered Quality Institute

Context

In the current syllabus, CIMA students will learn and may be examined on this topic in Paper P4, Organisational management and information systems, and Paper P2, Management accounting decision making.

Overview

There are a number of definitions of quality. To some extent it is a subjective term and means different things to different organisations. However, the need to satisfy customers’ requirements is central to most definitions and interpretations of quality.

Modern management thinking on quality and its strategic importance originates from the work of W. Edwards Deming. His teachings helped to transform the Japanese economy after the Second World War. Deming’s ideas on quality management involved statistical methods and company-wide quality, and led to the development of the Total Quality Management (TQM) concept.

Joseph Juran was another quality expert. He was influential in transforming the Japanese economy and helped to shape Western approaches to quality. Philip Crosby, a leading authority in quality management, developed the concept of ‘zero defects.’ He also wrote a number of influential books on quality.
Kaizen is a Japanese approach involving continuous improvement through small incremental steps over time. It originated in the 1930s and was successfully pioneered by Toyota in the 1950s and 1960s. Many of W. Edwards Deming’s ideas influenced the development of Kaizen.

More recently, Six Sigma, a statistically based methodology, was developed by Motorola in the 1980s.

In 2000, the ISO 9000:2000 series of quality management standards was published. These standards are generic and focus on customer satisfaction. There are now versions of the ISO 9000 series which are aimed at specific industries.

The European Foundation for Quality Management (EFQM) Excellence Model was introduced in the 1990s. It is one of the most popular self-assessment models for quality improvement.

**Application**

**Kaizen**

Kaizen is a Japanese philosophy and quality management method which involves continuous improvement through small incremental steps over a long period of time. Kaizen philosophy encourages an ‘instinct for improvement’ throughout the organisation. Improvement is seen as a ‘way of life’, not just the application of specific tools and techniques. Senior management commitment is vital for implementing Kaizen across an organisation. Kaizen can be used in the development of TQM.

Reported benefits include:

- quality of a product or service is improved and this is monitored continuously
- reduction in waste, leading to greater efficiency and lower costs
- increase in employee morale and job satisfaction
- continuous monitoring of all organisational functions, by the people most familiar with each function.

Kaizen involves giving employees tools and techniques for improvement. These include:

- Ishikawa fishbone diagram – a cause and effect diagram. This resembles the skeleton of a fish and shows the causes and sub-causes leading to an effect.
- Pareto analysis – see section below – ‘Other Quality Management Tools’.
• ‘The five why process’ – a technique used for identifying the causes of a problem by repeatedly asking ‘Why?’

• Forcefield diagrams – used to analyse forces that assist or obstruct the organisation in reaching a particular objective.

**Total Quality Management (TQM)**

TQM is a business philosophy, rather than a specific system, tool or process. It is applied to the whole organisation, and to every activity within the organisation. The Kaizen concept can be used as a basis for TQM, which encourages continuous improvement throughout the organisation. TQM involves both the prevention of errors before they occur, and ‘total quality’ in the design of products, services and systems.

TQM gives everyone in the organisation responsibility for quality at every stage of production, from the initial design stages to after sales service. If a problem is detected during any stage of the production process, it is solved by that person, before it affects subsequent production stages. Therefore problems are eliminated before they impact on the final customer.

Reported benefits of TQM include:

• greatly improved quality of the final product or service

• cost savings through a reduction in waste – replacing faulty or damaged goods or components can be expensive

• increased productivity, as staff time is used more effectively

• greater market share due to better products and services, resulting in competitive advantage.

Reported drawbacks of TQM include the following:

• it is time consuming

• it is not a panacea for a failing organisation

• TQM is not a ‘quick fix’ – it can take years to implement and will be a constant process

• it involves costs, namely capital costs and the costs of retraining staff

• requires high quality change management.
No single methodology or tool is used in TQM, but some of the most common include:

- a ‘zero defects’ policy – a commitment to detailed monitoring and avoiding errors based on the view that defects are never acceptable
- quality circles – see section below – ‘Other Quality Management Tools’
- statistical monitoring – evaluation of production processes and quality using statistical information
- consumer feedback – market research methods are used to identify customers’ requirements
- altering production methods – through changes to production processes or team structures

TQM has failed in some organisations due to the huge bureaucratic burden placed on employees. This diverted attention away from normal business activities. The term TQM is now used less frequently, but the philosophy itself is still an important part of quality management thinking in organisations.

**Six Sigma**

Six Sigma is a technique and philosophy designed to reduce waste and improve performance. It is based on the statistical work of Joseph Juran, and was pioneered by Motorola in the 1980s.

Six Sigma is a statistical method that involves establishing an ‘optimum specification’ for each process within an organisation. It then uses statistical analysis to reduce defects to ‘almost zero’. In addition, organisational culture concentrates on producing value for the customer and abolishing superfluous processes.

‘Sigma’ is a statistical term which measures how far a process deviates from perfection. The higher the sigma number, the closer the process is to perfection. Six Sigma is 3.4 defects per million, or getting things right 99.999% of the time. It is possible to develop ways of reducing defects by measuring the level of defects in a process and discovering the causes.
It may not be possible to achieve ‘perfect Six Sigma’ but significant benefits can be achieved from a rise from one Sigma level to another.

Reported benefits include:

- increased quality, productivity, customer satisfaction and competitive advantage
- reduction in costs and waste
- more motivated employees.

Reported drawbacks:

- may be met with scepticism, as the reported benefits are considerable
- employees may find it difficult to understand initially
- costs of training employees
- cultural change may be required
- can be time consuming
- not all processes require such close scrutiny and ‘dramatic reengineering’.

Quality standards

External quality standards, such as the ISO 9000 series, are produced by recognised standard setters. The ISO 9000 series is the best known and is used globally.

ISO 9000 Series

The ISO 9000 Series is a set of standards for quality management and quality assurance. They were originally published in 1987 by the International Organisation for Standardisation (ISO). They were revised in 2000 to place greater emphasis on customer satisfaction and the fulfilment of customer requirements.

The ISO 9000 series are not product standards. They are process based rather than procedurally based – they state what organisations must do to manage the processes that influence quality.

Reported benefits of ISO 9000:2000 implementation:

- greater customer satisfaction
- can be used as a marketing tool
• recognised internationally, and so helpful in export markets
• help achieve continual improvement
• can complement TQM.

It should be noted that ISO 9000 is a basis for a quality management system and not an absolute guarantee of quality. Third party certification is of the system itself, not the quality.

**Other quality standards**

The ISO 14000 series is concerned with environmental management systems, and is closely related to the ISO 9000 series. Texts and information on the ISO 9000 series usually include references to the ISO 14000 series.

Other quality management standards have been developed which are specific to certain industries and sectors. For example, AS9100 is used in the aerospace industry, TL9000 is used in telecommunications and QS9000 is applied in the automotive industry.

**Self assessment models**

Many organisations use self-assessment models for quality improvement. One of the best known is the European Foundation for Quality Management (EFQM) Excellence Model. It enables organisations to measure their performance in key business areas. The EFQM website explains how the model is based on nine criteria which are used to assess the organisation’s ‘progress towards excellence’.

http://digbig.com/4wxew
[Accessed 13 May 2008]

These criteria are:

**Enablers**: leadership, policy and strategy, people, partnerships and resources, processes,

**Results**: customer results, people results, society results, key performance results.

Using the EFQM Excellence Model helps eliminate subjectivity from self-assessment. In addition, studies have found that using this model leads to improved organisational results.
**Business process re-engineering (BPR)**

BPR is often mentioned in discussions and texts on quality. The idea is to increase an organisation’s performance by radically re-designing organisational structures and processes. Major change is brought about in a short time and improved business processes should lead to greater quality. In this way, BPR could be used as part of a TQM approach.

BPR has been criticised for being used merely as a device for downsizing. The author R.J. Allis points out that BPR has been ineffective in many organisations because, having down-sized, management has failed to develop strategies to redirect resources to encourage growth and competitiveness.

**Other quality management tools**

Other quality management tools highlighted in CIMA texts include Quality Circles, 5-S practice and the Pareto rule.

**Quality circles**

Quality circles consist of small, multidisciplinary groups of staff who meet regularly to identify and solve quality related problems.

**The Pareto rule**

This originates from the work of the 19th century Italian economist Vilfredo Pareto. The Pareto rule suggests that most effects originate from relatively few causes – 80% of the effects come from 20% of the possible causes. The idea is to become more effective by concentrating efforts on this vital 20%.

**5-S practice**

5-S practice encourages effective workplace organisation and standardised work procedures. It is a philosophy based on five Japanese words which mean organisation, neatness, cleanliness, standardisation and discipline.
References


Original references include:


**Further information**

**CIMA Articles**

Available from: [http://digbig.com/4wxex](http://digbig.com/4wxex)
[Accessed 13 May 2008]

Starovic, Danka. *Getting Six Sigma right*. CIMA Insight, August 2003
Available from: [www.cimaglobal.com/insight](http://www.cimaglobal.com/insight)
[Accessed 13 May 2008]

**Other Articles**

Full text articles available from Business Source Corporate through My CIMA
[www.cimaglobal.com/mycima](http://www.cimaglobal.com/mycima)
[Accessed 13 May 2008]


**Books**


Case Studies

Available from Business Source Corporate through My CIMA
www.cimaglobal.com/mycima
[Accessed 13 May 2008]


CIMA Mastercours es

Achieving process excellence: Six Sigma process improvement. To book via www.cimamastercourses.com please go to Find and key in the course code SSIG.
**Websites**

American Society for Quality (ASQ)
ASQ is a membership organisation dedicated to quality. [www.asq.org](http://www.asq.org) [Accessed 13 May 2008]

Chartered Quality Institute (CQI)
The CQI is the only chartered professional body dedicated to quality. [www.thecqi.org/](http://www.thecqi.org/) [Accessed 13 May 2008]

European Foundation for Quality Management (EFQM)
EFQM is a not-for-profit membership foundation. [www.efqm.org](http://www.efqm.org) [Accessed 13 May 2008]

International Organization for Standardization (ISO)
The ISO website explains the function of the ISO, the ISO 900 / ISO 14000, and ISO products and services. [www.iso.org/iso/home.htm](http://www.iso.org/iso/home.htm) [Accessed 13 May 2008]