The Evolution of Quality

Introduction

Before the concepts and ideas of TQM were formalised, much work had taken place over the centuries to reach this stage. This section charts the evolution, from inspection through to the present day concepts of total quality.

From inspection to total quality

During the early days of manufacturing, an operative's work was inspected and a decision made whether to accept or reject it. As businesses became larger, so too did this role, and full time inspection jobs were created.

Accompanying the creation of inspection functions, other problems arose:

- More technical problems occurred, requiring specialised skills, often not possessed by production workers
- The inspectors lacked training
- Inspectors were ordered to accept defective goods, to increase output
- Skilled workers were promoted into other roles, leaving less skilled workers to perform the operational jobs, such as manufacturing

These changes led to the birth of the separate inspection department with a "chief inspector", reporting to either the person in charge of manufacturing or the works manager. With the creation of this new department, there came new services and issues, e.g, standards, training, recording of data and the accuracy of measuring equipment. It became clear that the responsibilities of the "chief inspector" were more than just product acceptance, and a need to address defect prevention emerged.

Hence the quality control department evolved, in charge of which was a "quality control manager", with responsibility for the inspection services and quality control engineering.

In the 1920's statistical theory began to be applied effectively to quality control, and in 1924 Shewhart made the first sketch of a modern control chart. His work was later developed by Deming and the early work of Shewhart, Deming, Dodge and Romig constitutes much of what today comprises the theory of statistical process control (SPC). However, there was little use of these techniques in manufacturing companies until the late 1940's.

At that time, Japan's industrial system was virtually destroyed, and it had a reputation for cheap imitation products and an illiterate workforce. The Japanese recognised these problems and set about solving them with the help of some notable quality gurus – Juran, Deming and Feigenbaum.

In the early 1950's, quality management practices developed rapidly in Japanese plants, and become a major theme in Japanese management philosophy, such that, by 1960, quality control and management had become a national preoccupation.

By the late 1960's/early 1970's Japan's imports into the USA and Europe increased significantly, due to its cheaper, higher quality products, compared to the Western counterparts.

In 1969 the first international conference on quality control, sponsored by Japan, America and Europe, was held in Tokyo. In a paper given by Feigenbaum, the term "total quality" was used for the first time, and referred to wider issues such as planning, organisation and management responsibility. Ishikawa gave a paper explaining how "total quality control" in Japan was different, it meaning "company wide quality control", and describing how all employees, from top management to the workers, must study and participate in quality control. Company wide quality management was common in Japanese companies by the late 1970's.

The quality revolution in the West was slow to follow, and did not begin until the early 1980's, when companies introduced their own quality programmes and initiatives to counter the Japanese success. Total quality management (TQM) became the centre of these drives in most cases.

In a Department of Trade & Industry publication in 1982 it was stated that Britain's world trade share was declining and this was having a dramatic effect on the standard of living in the country. There was intense global competition and any country's economic performance and reputation for quality was made up of the reputations and performances of its individual companies and products/services.

The British Standard (BS) 5750 for quality systems had been published in 1979, and in 1983 the National Quality Campaign was launched, using BS5750 as its main theme. The aim was to bring to the attention of industry the importance of quality for competitiveness and survival in the world market place.

Since then the International Standardisation Organisation (ISO) 9000 has become the internationally recognised standard for quality management systems. It comprises a number of standards that specify the requirements for the documentation, implementation and maintenance of a quality system.

TQM is now part of a much wider concept that addresses overall organisational performance and recognises the importance of processes. There is also extensive research evidence that demonstrates the benefits from the approach.

As we move into the 21st century, TQM has developed in many countries into holistic frameworks, aimed at helping organisations achieve excellent performance, particularly in customer and business results. In Europe, a widely adopted framework is the so-called "Business Excellence" or "Excellence" Model, promoted by the European Foundation for Quality Management (EFQM), and in the UK by the British Quality Foundation (BQF)."