6 Total Quality Management and Cost of Quality

Evsevios Hadjicostas

Before we start analysing the philosophy of Total Quality Management it is worthwhile going back to the early days of quality and the quality movement. In fact, the quality concept dates back to the creation of Adam and Eve: “And God saw every thing that he had made, and, behold, it was very good”. (Genesis A 31).

It is remarkable that at the end of each day, looking at his creations God was saying, “This is good”. However, at the end of the sixth day, after he finished the creation of human beings, he said, “This is very good”. It is amazing that he did not say, “This is excellent”. This is because excellence is something that we gain after tireless effort. God left room for improvement in order to challenge us and make our life more attractive, which has really happened!

In the text that follows we will be referring to the term “organization” and we mean the laboratory. The term “process” refers to any activity in the organization, e.g. the analytical process.

Slide 1

Before mass production the control of quality was in the hands of the operator. This period, of the “operator’s Quality Control” was followed by the “foreman’s Quality Control” period, where a supervisor was assigned to supervise the quality of the work of the operators. Then it was the “Full-time inspectors Quality Control” (1920-1930) and the fourth stage was the “Statistical Quality Control” (SQC), first introduced by Deming in Japan in early 1950s.

During 1950 Feigenbaum introduced the concept of Total Quality Control (TQC) into western countries, as a management tool to improve product design and quality by reducing operating costs and losses. Kauro Ishikawa, a Japanese chemist, introduced TQC in Japan around 1950-1960 as “a company-wide management tool in order to produce high quality goods and services that give a competitive edge both in the short term and in the future”.

The International Quality movement

- Operator Quality Control
- Foreman Quality Control
- Full-time Inspectors
- Statistical Quality Control
- Total Quality Control
- Total Quality Management
Slide 2

Total Quality Management (TQM) is a company culture that allows it to provide quality goods and services at the lowest cost in order to achieve customers’ satisfaction and, at the same time, ensure satisfactory business development by continuous improvements. The definition of TQM shown in this slide is taken from the British Standard 7850.

In this chapter we present the management principles of Total Quality Management and the quality improvement methods, as set out in the standards BS 7850 part 1 and part 2 respectively. Furthermore, we introduce the cost of quality and give an outline of the economics of quality, as set out in the BS 6143, Guide to the economics of quality.

Slide 3

For an organization to function effectively and efficiently, it has to identify numerous linked activities. An activity using resources, and managed in order to enable the transformation of inputs into outputs, is considered as a process. Often the output from one process directly forms the input to the next.

Slide 4

The process of TQM consists of three major activities:
- Setting the policy and strategy of the organization,
- effectively and efficiently managing the organization, and
- seeking continuous improvement.