

TANZANIA BUREAU OF STANDARDS(TBS)

TOTAL QUALITY MANAGEMENT

By: B B M Matemba

Head Quality Management Department

0. INTRODUCTION

Today, people are increasingly growing interest in quality. This is due to much consideration consumers are putting on their health and safety. Markets are therefore becoming competitive resulting in improved profitability. This is evident not only in the manufacturing sector but also in the service industry.

Has this growing interest in quality resulted in goods and services of a better quality? Do companies and organizations now work on these questions more efficiently than they used to do? Unfortunately it is not possible to answer these questions with unconditional yes because in many cases only marginal results has been achieved.

Quality has been growing as a fashion since early times. There is a list of many phenomena like zero defect, quality circles, statistical process control, quality function deployment, seven tools, ISO 9000, benchmarking and so on. The problem is how are these tools used in order to improve the quality of products and services.

This paper is trying to explain on how the various quality activities should be performed in order to achieve total customer satisfaction. I have described various approaches, principles and methods. The paper deals with both product and total quality. It includes examples from manufacturing enterprises as well as service organizations. In fact there is little difference between the manufacture of goods and the provision of services when it comes to quality management – since services are intangible products.

I have based my paper on my own experience gained from my twenty five years of work in the quality field.

0. QUALITY

0.1 WHAT IS QUALITY ?

Our lives depend on products of various types. These include food, communications, health care, dwellings, recreation and work. Whether these are goods or services, the most important feature is that, they should be fit for their intended use. Any failure in these respects could lead to death, discomfort or financial loss.

A product may be more or less fit for use. As far as the user is concerned, this is what quality is all about. The quality of a product may therefore be defined as its **FITNESS FOR USE**.

When we define quality as fitness for use, we are generally thinking about the way the customer uses the product. However in using this definition, we should also think about the activities which take place prior to the production of the product, for example design/formulation, production, packaging, storage, distribution and end use. Not only that the end use should be considered, but also the internal use - hence the concept - **THE NEXT PROCESS IS MY CUSTOMER**. When a customer buys a product, he has expectations. If his expectations are met then we would say that the customer is satisfied.

In this respect we would therefore define the quality of a product as its “ability to satisfy customer expectations”.

0.2 SPECIFICATION QUALITY – CONFORMANCE QUALITY

Most products are manufactured with the help of specifications - then we would talk about quality of conformance. Conformance quality may also be defined as “meeting specifications”

We have noted from the above that quality may be defined in three ways namely:-

- Fitness for use
- Customer Satisfaction
- Meeting Specifications

In order to harmonise these definitions, the International Organization for Standardization (ISO) has defined Quality as:- “degree to which a set of inherent characteristic fulfils requirements. From ISO standards ISO 9000:2000.

1.3 QUALITY IS RELATED TO CUSTOMERS

When we talk to about customers we think primarily about individuals and organizations who pay for the goods and services. They are not part of the organization and are therefore known as external customers.

But a company also has internal customers. These internal customers comprise of all the units and individuals who form part of the company's own organization and who receive inputs for their work, for example, from other units in the organization.

Internal customers form part of the own organization. Their work depends on how well the activities of other units in the organization are performed. For example managers need information about budget results. They obtain this information from the accounts department. This means the managers are internal customers of the accounts department and the accounts department are internal suppliers for these customers.

1.4 TOTAL QUALITY

We have discussed the concept of quality and we have used this concept in relation to products i.e goods or services which a company produces and supplies.

Nowadays, quality is increasingly being discussed in a broader context. The concept most commonly referred to is total quality. Total quality includes all internal processes and functions as well as involvement of everyone in the organization.

In this context we often refer to TQM or total quality Management. Some companies claims to have a TQM programme. This should mean that they genuinely involve all the people in the organization to produce quality. At best a company may have a programme for total quality control, an approach which emerged in the 1960s. However it has become popular to talk about TQM. The Japanese call this concept as company wide Quality Control (CWQC).

2. THE EVOLUTION OF QUALITY

2.1 Historical background

The idea of checking the quality of products is not new. It started centuries ago. In the market buyers and sellers met face to face. The buyer checked the quality of foods such as meat, fish and vegetables by smelling them and feeling the merchandise before buying it.

Before the industrial revolution products were made by craftsmen. The craftsman was in the position to respond immediately to the customer and pick up ideas about how to improve quality. This is because he could monitor all stages of production of the goods.

The craftsman was followed by industrialization and use of mass production. Companies tended to become more specialized. It was no longer possible to rely on craft skills to prevent faulty products. As industry developed scope of activities increased hence it was necessary to introduce inspection activities. At the time of first world war a vocational group known as inspectors emerged. The inspectors were eventually organized in a separate unit known as inspection department. These were formed in the 1920's .

During second world war mass production increased. There was a decline of labour at this time. It was therefore necessary to improve the efficiency of control and inspection activities. Effectiveness of these were demonstrated by the use of statistical methods. In USA, Military authorities noted this and therefore trained suppliers of defence equipment in the use of statistical methods.

Products then became increasingly complex. This led to growing risk of products having functional failures. It was then in the 1950s that specific methods to improve reliability were developed.

By 1960's the concept of total quality control was becoming widely known. Quality activities were planned to cover all functions. This multifunctional approach became known as total quality control (TQC) or company wide quality control (CWQC).

Towards the end of 1960's, another concept known as quality assurance began to attract growing attention. This term is considered to mean the activities that are employed to provide confidence that the intended quality has been achieved and maintained. Examples include product and quality system certification.

Again in the 1970's product safety and need to eliminate harmful features began to attract attention. This was due to rapid emergence of product liability of manufacture, distributor, vendor etc. to pay compensation when a product has caused injury to a person or damage to property.

During the first half of 1980s the level of interest among top executives started. These executives started to believe that quality was going to have a growing influence on a company's future and its development. This awareness was due to stiff competition on quality, above all from Japan. This is the time when the ISO 9000 series of standards on Quality Systems were published in 1987.

3. THE CURRENT SITUATION

3.1 The current situation on quality focuses on three main areas of interest.

3.1.1 TOTAL QUALITY

In the past focus was only on product quality. Today quality is seen in a broader perspective which also includes the quality of all internal processes and functions and involvement of all people in the organization.

In this way reference is made to total quality or total quality management.

3.1.2 ISO 9000

The international series for quality systems ISO 9000 has a great impact. Many companies and organizations have obtained ideas from these standards as a basis for developing and introducing procedures for their own quality activities, primarily related to product and service quality.

3.1.3 Quality Awards

Some countries like USA, Sweden and UK have introduced a system of giving National Quality Awards to companies and organizations, which have excelled in quality. There are defined criteria used to award such companies.

4.0 GOOD EXAMPLES

4.1 The Japanese Success in Quality

In the 1980's Japan showed the way by becoming world leaders in quality on the global market.

The western world lost their market shares to Japan in many product areas including cameras, home electronics, watches, cars etc. This was due to improvements in the quality of Japanese goods.

The quality improvement of Japanese goods started in the 1950's whereby several leading industrialists decided that a dramatic improvement in the quality of their products was essential. These improvements were mainly due to two prominent "quality gurus". One is Dr J. M. Juran from USA who was first invited to Japan in 1954 to lecture on Quality and did this on many occasions. The other is Professor Kaoru Ishikawa (Later known as Japanese Father of Quality Control) who proved to be the best known of Japan's quality experts.

The phrase Juran normally used in quality developments in Japan is "quality revolution". There are three factors behind this revolution:-

- Massive training on Quality

Everyone in the company was given training on quality. This affected all the functions and started from the top downwards.

- Annual programmes for quality improvements. Improving the quality of products and processes became a habit in the company.

- Top Management leadership in quality
Top managers showed the way to quality improvement.

However Professor Ishikawa identified six characteristics which led to Japanese quality improvement work. These are:-

- Companywide quality control – that is all functions and all levels from top management to operators are systematically involved in quality activities.

- Top management follow-up involves follow up of agreed goals, principles and plans to ensure that these are being implemented. In Japan the follow-up is made by the Top management and is known as President's quality audit.

- Education and training - this is intended for everyone

- Quality circles - the first circle was started in 1962. Production operators work in small groups to improve quality.

- Statistical methods - measures to improve and control quality at Japanese companies include the methodical use of statistical tools and histograms, control charts, pareto diagram, and Ishikawa diagrams are now in wide spread use.
- Propaganda at national level – campaigns are run regularly at national level – these are done in November of every year – the international quality month.

5.0 CONCLUSION

5.1 Successful companies orient their activities distinctly towards the market. This means they focus on their customers and their needs as well as keeping a close watch on their competitors. This is often known as market-driven quality. The best way to do this is to identify customers, both existing and potential and satisfy their needs through a market survey. Customers should not be forgotten once the goods or services are delivered. The company should take initiatives to obtain information about what the customers think about the goods or services. Customer attitudes are investigated regularly. Customers are given the help they need. Any faults or failures are dealt with quickly, without any trouble or any charge at all. The company should also monitor competition on the market regularly.

Good Luck.