

A Theoretical Approach to the Concept of the Costs of Quality

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Abstract

Crucial changes in economical and technical areas happened in recent years forced the businesses to survive in the competitive world. At the same time, because of the changes in marketing approaches and changes in customer needs, businesses have begun to implement quality-based philosophies in their production process. Today's customers require high quality and diversified products, and businesses should be satisfying customer's needs with the production costs. In this context, businesses have begun to implement an effective quality planning and they also begun to calculate the cost of quality. After changing their manufacturing systems it is needed to change current cost systems naturally in. In parallel with the changing production systems, businesses also felt the need to change the existing cost systems. Now, traditional cost systems such as standard cost systems are inadequate for businesses in today's competitive environment. In this study, quality costs therotically determined and the quality cost concept is discussed.

Keywords: Quality, Quality Costs, Quality Cost Models, Quality Cost System

1. Introduction

After the adoption of modern management philosophies by businesses serious changes began to occur in the manufacture. The basic element which caused these changes is change in marketing philosophies. Also, modern marketing approach is not focused on the production; it is focused on customers so this has caused turn the eyes to the quality-based production. With the new manufacturing concept, the cost of quality is becoming an indispensable element of the production process. Many successful companies take the quality as the central value and consider it to be a crucial success element for gaining a competitive advantage.

Any serious attempt to improve quality must take into account the costs associated with achieving quality since the objective of continuous improvement programs is not only to meet customer requirements, but also to do it at the lowest cost. This can only happen by reducing the costs needed to achieve quality, and the reduction of these costs is only possible if they are identified and measured. Therefore, measuring and reporting the cost of quality (CoQ) should be considered an important issue for managers (Schiffauerova and Thomson, 2006).

Today, increasing in competitive environment at both national and international level forced the businesses to produce customer-based and also this environment has forced the businesses to provide quality to satisfy the customer needs. Businesses have begun to taking into account the quality to survive in the competitive environment.

Particularly with the oil crisis in 1970's, the business world completely changed. During these years, the importance of the quality control began to be noticed by the United States and Japan. Thanks to the changes in business world, the concept of the quality and competitiveness began to be expressed together in the international markets. Quality-based philosophies began to implement in all over the world and some philosophies such as high quality, low cost approach, Total Quality Management (TQM), zero defect, just-in-time, lean manufacturing began to apply in manufacturing process.

During the provision of quality, the balance of the quality and the cost of quality is the important factor for the businesses in order to gain profitability. In order to achieve such a balance of quality cost, data must be detailed and need a realistic analysis.

2. The Concept of Quality Costs

The definition of what constitutes quality costs is by no means straightforward, and there are many grey areas where production and operation procedures and practices overlap with quality-related activities (Dale, 2000). There is no general agreement on a single broad definition of quality costs (Machowski and Dale, 1998). However, the cost of quality can be understood as a basic data which is used in determine the current situation and identify new targets in order to achieve goals. Quality costs can be represent the difference between the actual cost of a product or service and what the reduced cost would be if there were no possibility of sub-standard service, failure of products, or defects in their manufacture (Campanella, 1999).

Any serious attempt to deal with quality issues must take into account the costs associated with quality. Those costs can be classified into three categories: appraisal, prevention, and failure. Appraisal costs relate to inspection, testing, and other activities intended to uncover defective products or services, or to assure that there are none. They include the cost of inspectors, testing, test equipment, labs, quality audits, and field testing. Prevention costs relate to attempts to prevent defects from occurring. They include costs such as planning and administration systems, working with vendors, training, quality control procedures, and extra attention in both the design and production phases to decrease the probability of defective workmanship. Failure costs are incurred by defective parts or products or by faulty services (Stevenson, 2007).

It is now widely accepted that quality costs are: the costs incurred in the design, implementation, operation and maintenance of a quality management system, the cost of resources committed to continuous improvement, the costs of system, product and service failures, and all other necessary costs and non-value added activities required to achieve a quality product or service (Dale and Plunkett, 1995).

Giakatis and colleagues argue that it is important to differentiate between quality costs and quality losses. One cannot simply assume that prevention and appraisal costs are quality costs while failure costs are losses, for there can be a percentage of quality loss even in the prevention/appraisal activities, particularly when those are not very successful. If these activities are successful, the organization saves money, but if the reverse is the case, the organization not only loses the invested money but also encounters further losses (Kelemen, 2003).

3. The Importance of Quality in Terms of Costs

The concept of quality costs are mentioned by Dr. Joseph M. Juran in 1951 in his “Quality Control Handbook”. In 1961, Quality Costs Committee was established by American Society for Quality (ASQ). However in 1979, the concept of quality costs begun to be popular thanks to Philip B. Crosby in his book “Quality is Free” (Beecroft, 2000).

Most quality costs are not obvious and open. These are called hidden quality costs, and they are often many times the size of the easily measured costs. The iceberg analogy is useful here. Many organizations tend to measure only the tip of the iceberg while the real costs of poor quality in operations and delivery of a product or service lie below the surface. In Figure 1.1. as shown below the iceberg of measured and hidden quality costs (Wood, 2007).

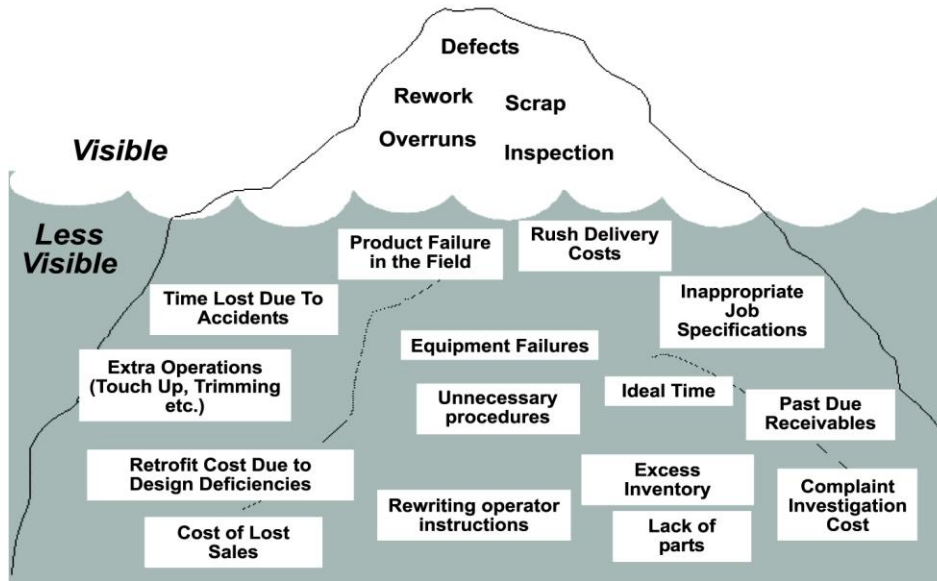


Figure 1.1. The iceberg of visible and less visible quality costs.

Reporting quality costs can improve managerial planning, control, and decision making. For example, if a company wants to implement a process reengineering program to improve the quality of its products, it will need to assess the following: current quality costs by item and by category, the additional costs associated with the program and the projected savings by item and by category. Using quality cost information to implement and monitor the effectiveness of quality programs is only one use of a quality cost system. Also, quality cost information is an important input to management decision making. (Hansen and Mowen, 2009).

Cost of quality measurements can be part of the decision-making process, as an adjunct to discounted cash flow or sensitivity analyses for project evaluation. They can also be used to monitor performance across an organization, in order to identify priorities for improvements and to set cost-reduction targets. One the activities are being carried out, cost of quality can be used check progress towards target. It can also be used to carry out a cost-benefit analysis against specific quality-related activities such as TQM programs or ISO 9000 certification. Benchmarking can be carried out across different parts of an organization or between companies in the same or similar industries (McCormick, 2002).

The important thing is that as more and more employees become actively involved in continuous improvements, the main quality elements are gradually identified throughout the firm, thus the decision about which quality cost element to measure and record can be made in connection with this. The firm's own chart of accounts for quality costs thus becomes a tool in its efforts to improve quality (Dahlgard, Kristensen and Kanji, 2002).

4. Conclusion

In recent years organizations have been focusing much attention on quality management. Also, manufacturing environments have changed enormously so today's consumers are becoming more and more complex and they require high quality and diversified products. Therefore, companies should produced new, innovative and high quality, yet cheap products that today's customers want to buy. To maximize the profits of an organization it is necessary to monitor quality costs. Quality costs are important considerations for information management and information technology.

In global world, the most important way to survive in the competitive environment for firms is using quality as a core strategy. All successful companies have a strong quality strategy in order to survive in the competitive world. Now, many successful companies promote quality as the central customer value and consider it to be a critical success factor for achieving competitiveness. The successes of multinational corporation depend on their successes in using quality cost systems.

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