

## THE QUALITY COSTS

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**Abstract:** *Quality has a cost and this fact cannot be denied. In the same time, it is true that non-quality is more expensive. Quality is considered as being expensive because no one tries to calculate non-quality costs. Out of the final cost of a product, non-quality stands for 20% up to 35%. According to this idea all the economic sectors contain error costs caused by the mistakes made during the production process. To have a real consummation situation, it is necessary to know the cost quantum. The final quality cost is the result of the following costs: prevention costs, necessary to preclude errors; evaluation costs, as results of a final product evaluation, and failure costs, generated by the non – attainment of product's purpose. The gross of these costs stand for the total quality costs. Nowadays, the problem inheres in how much this quality cost represents out of the final cost.*

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### Introduction

It takes time and money to measure quality through a system of indicators, so as the study of a process and its redesigning, in order to be more effective. But non-quality is more expensive. The quality is considered as expensive due to not measuring the price of the non-quality. To understand its real cost, we will start by defining the term producer of errors. This phrase refers to all means and efforts used in an organization, but that does not bring any value-added to its activity, that represents consequently a cost. Some of its consequences are: the doubling processes, repeating the work, correcting errors, storing non-necessary surpluses.

The cost of the poor quality in administrative sectors implies costs increasing from 20 to 35% for these departments. This is an estimate digit; it may vary, depending on the organization sector, and even from one organization to another within the same sector.

In the 70's the cost of the poor quality was mainly used to measure the manufacturer costs. Lately it was concluded that in all departments, processes and activities, costs occur, because things were not properly done in due time.

We will not develop the idea according to which the quality would be free, but if we make a comparison between its cost and the cost of poor quality, is more economical and profitable to work in accordance with the excellence principles.

### **Categories of costs relating to quality**

The cost calculation is necessary to the management in order to register the actual consumption of goods and services. The costs, that represent the efficiency measurement, should allow finding the irregularities on the model or on the proposed target prices.

A system costs does not record the smallest deviations because, by registering them, it may happen that the application of such system to be more expensive than the savings that would be achieved by implementing the measures. There is an attempt to keep under observation those options or consumptions that presumably influence more the effective use of resources.

The costs system properly conceived will try to determine the consumption of those activities which are estimated to require a special attention, without which it would reach to situations detached from the reality of the organization. On the other hand, it is necessary to take into account the planned costs and not the historical costs, because the historic cost allows only the achieved corrections after the events took place, and the planned cost allows the anticipation of the events.

Managers' decisions incline towards using resources, based on two major directions:

- The use of significant resources so that a decision may influence more the efficiency;
- The opportunities to which the organization renounces by using resources with a determined finality.

These are the criteria that guide the definition and the classification of so-called quality costs. The quality costs and the non-quality cost refer to those activities which affect the quality of the product or service. It is important to point out that the enterprise's organization and culture influence a lot the cost. The Total Quality Management requires reducing the costs as a result of the management system, as we will reveal below. So, speaking about the quality costs means grouping costs with quality orientation.

There are four types of costs associated to quality and non-quality, as follows:

- Prevention costs: the costs of preventing activities for errors occurrence or differently said, the costs of all those activities that try to eliminate in advance the causes that may lead to lack of quality.
- The evaluation costs: it is the result after evaluating the finished product or service after it was performed, or it represents everything that was spent on in order to see if the outcome of a process corresponds to the standards, if it is according to the specified quality.

- The failure costs: they are the ones that are derived from the unaccomplished products or services, whether final or intermediary, costs of all or some requirements that are adapted for customers' use.

The failure costs are classified into two major groups:

- Costs for internal failures - are those costs involving the organization, as a result of errors committed during the processes and the activities, and they are detected before the product or service is reaching to the public.
- Failure for external costs - they are associated with defects that are found after the product or service was transmitted to the client. These costs would have disappeared if there was not a defect product.

The amount of all costs above represents the total quality costs. These costs, if they are added to those materials, must correlate to the organization total cost.

The quality costs are applied to almost any activity performed by the organization.

All functional sectors of an organization provide different services or products to other different functional sections, this way creating a client-supplier chain, which is taken into account in the total quality management.

After analyzing the objectives at a functional level, then it can be determined which products and services are available to other sectors and which are the requirements concerning them. This is the way to determine the basis for defining the preventive and evaluation activities, and the elements that characterize the class of internal cost and the external defects in relation to the final products and services.

In the process of carrying out their functional activities, most of those departments deal with the actions related to product development cycle phases or the product's commercial development cycle. So, the assurance quality costs appear in every stage of the product's commercial development cycle so as at every operational level of the organization. The controllable costs of the organization are the only items that must be included, and they may also include any granted bonus, only if they can be declared as separate cost items from their classes.

At the same time the apparently controllable costs should be eliminated, which are exclusively supported as a result of a contractual stipulation.

### **The reaction of the quality costs**

The prevention makes the evaluation activities to be less necessary because they are fewer errors to detect. Given this, it seems obvious that the priority is the prevention investment, which implies to act in the product and service design and to remove the cause of failures. The raised issue is if there is a limit when investing in quality costs. It will be the situation in which the quality costs will not compensate the savings that presupposes the reducing errors. The costs due to failures can be reduced to minimum or to zero, only if the prevention and evaluation costs rise greatly, in theory, up to infinite. On the other hand, the failure costs should be zero for 100% from the production or services units and it would increase once the percentage of defects increases.

The total quality cost appears as the amount of the prevention evaluation and failure costs, with a minimum of two asymptotic divisions.

Nowadays it is considered that the situation may not be as extreme as presented in figure 1, although it seems obvious that the improvement and prevention process of the new quality deficiencies represents the subjects for costs improvement. Informatics applications and other technologies have allowed considerable reductions of failures number, though others may appear in their place.

Figure 1 shows that the total quality costs have a determined value in proportion of 100% of the quality compliance. It is maintained the contrary growth in the failure cost and the evaluation and prevention costs. It considers that it is possible to reach a 100% percentage in compliance with certain minimum total costs, that a finite value of the prevention and evaluation costs may make place for a zero value of failure cost.

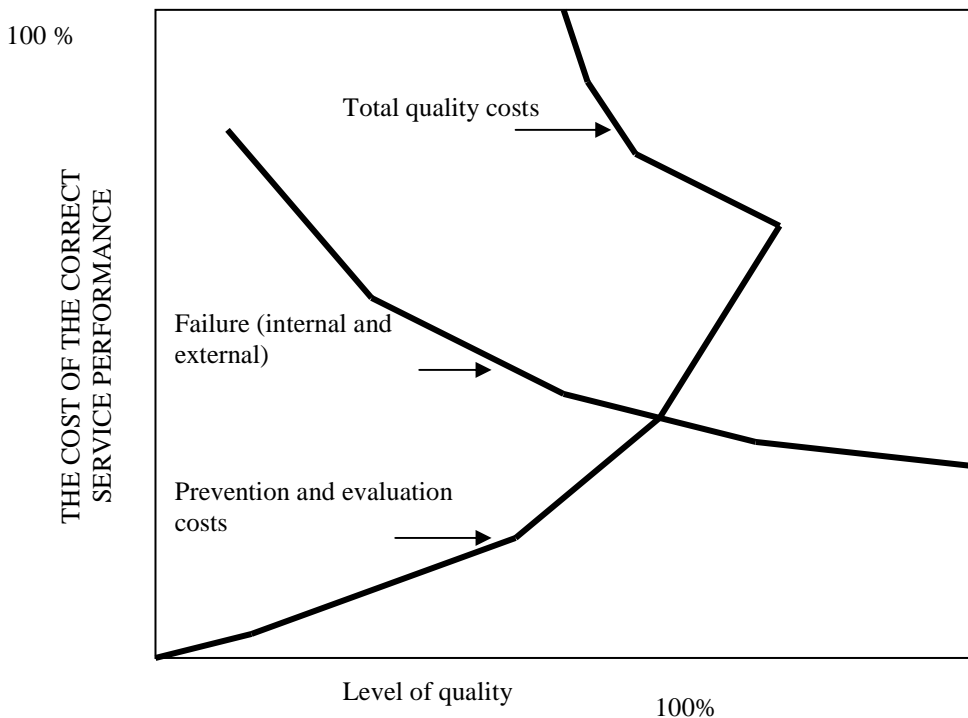


Fig.1 The reaction of the quality costs

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