

The Future of Quality: Back to Basics and Strong Project Management

By Giovanni Capozza

The manufacturing industry in advanced countries must focus on the quality of their product to fight the global crisis. What is, today, the path to reach a level of excellence in quality? Occasional initiatives are not enough. We rather need some real targeted programs, which also require a strong co-ordination supported by project management efforts.

A good product quality is a driving force for sales and can reduce the firm's costs! A simple and indisputable concept that affects inexorably, however, the **income statement** of any business organization, in the form of **lost revenue** caused by a quality of product not in line with the expectations of consumers, along with **additional costs due to the bad quality** of products (warranties, returns, rework and scrap, internal process controls, extra administrative and logistics costs, etc.). Moreover, some further indirect cost burden needs to be considered for the devaluation of the brand and expenses incurred by the customer.

In fact, it is not surprising to find companies with levels of bad-quality costs ranging from **10% to 25% of sales**¹. That is to say that a company with a turnover of 200 million €, for instance, could incur in a cost ranging between 20 to 50 million € due to poor quality. In this scenario, a 20% improvement in product quality would ensure a **reduction in costs** of up to **10 million €**, and an **increase in profit that may be of two / three-digit percentages**.

However, the path to a structured reduction of non-quality costs requires a highly "disciplined" approach. In this sense, in this article we suggest how to pursue the improvement of quality and the reduction of non-quality costs, through a **Quality Management Program** requiring the **implementation of five specific steps**, grouped into two main phases (as shown in table A).

From an organizational point of view, the realization of such a program, requires a two-tier structure (as explained better hereinafter) supported by one program manager and a steering committee, and the activation of **several project team**, entailing therefore a strong **cross-functional project management effort**.

¹ Harrington, H. James. *Il costo della non qualità*, Milano: Itaca Publ., 1990
Crosby, Philip.B. *La qualità non costa*, Milano: Mc Graw Hill Libri Italia, 1986
Merli, G. *Total Manufacturing Management*, Torino: Isedi, 1987
Tanaka, M., Sciuccati, F.M. *Riprogettare il sistema di produzione*, Milano: Il Sole24Ore, 1998

Step		Phases	
1	Measure the starting point and have a widespread communication	Measuring, defining targets and enabling the organization	Preparation stage
2	Define goals and the project teams		
3	Create the enabling conditions		
4	Set the corrective processes and continuous improvement projects	Quality levelling-up in all business processes	Execution stage
5	Ensure sustainability through prevention and anticipation	Maintaining, preventing and anticipating problems in all business processes	

Table A: phases and steps of the quality management program

In fact, although this approach refers to those that are the basic principles of the quality management (**back to the basics**), it requires, however, a strong discipline and outstanding **project management** skills to successfully carry out all the 5 steps described. Such approach moreover entails a coordinated effort and sponsorship of the overall program from the top managers of the company, whatever the boundary conditions and the business environment are.

This is one of the main reasons why there are not so many companies today who ceaselessly succeed in attaining such aim, and who can be regarded as an example of Quality Excellence in the market. More often, on the contrary, corporate organizations find themselves frenetically chasing the solution of (apparently) newer and newer quality problems, risking a deterioration in the quality realized and a rapid increase in the cost of non-quality.

This consideration is further strengthened by two factors, which have been making, in the last decade especially, the governance of the quality of products and processes not easy to manage: the relatively recent and long-lasting economic crisis, and the fiercer and fiercer competition generated particularly by the so-called Low Cost Countries (LCC). The need to meet the growing expectations of consumers at lower costs has in fact led to an exponential growth of the business complexity (with the relative growth of quality problems) basically due to: the explosion of the product variety, "frantic" product development processes (with greater risk-taking), production processes relocated in different parts of the world, worldwide supplier management, complex logistics processes fragmented in different geographical areas, global processes of service and spare parts, and so on.

Such complexity, however, can be steered from the point of view of quality in a more dynamic and effective way, by **triggering a program of quality management**, and by making it work continuously, to respond to whatever change in the external environment at the same speed it occurs.

The joint approach concretely

In brief, the approach here suggested requires to adopt the **basic principles of quality management**:

1. **measurement and creation of awareness** about the real AS IS condition,
2. **fast interception and correction** of the defects occurring,
3. focus on **continuous improvement** of performance (P-D-C-A cycle) at all business organization levels,
4. **prevention** of defects, learning from the mistakes of the past,
5. **anticipation** of new problems, since the stage of conception of a new product,

and to keep these principles alive thanks to a **strong quality program management** in **all business processes**, as displayed in Figure 1.

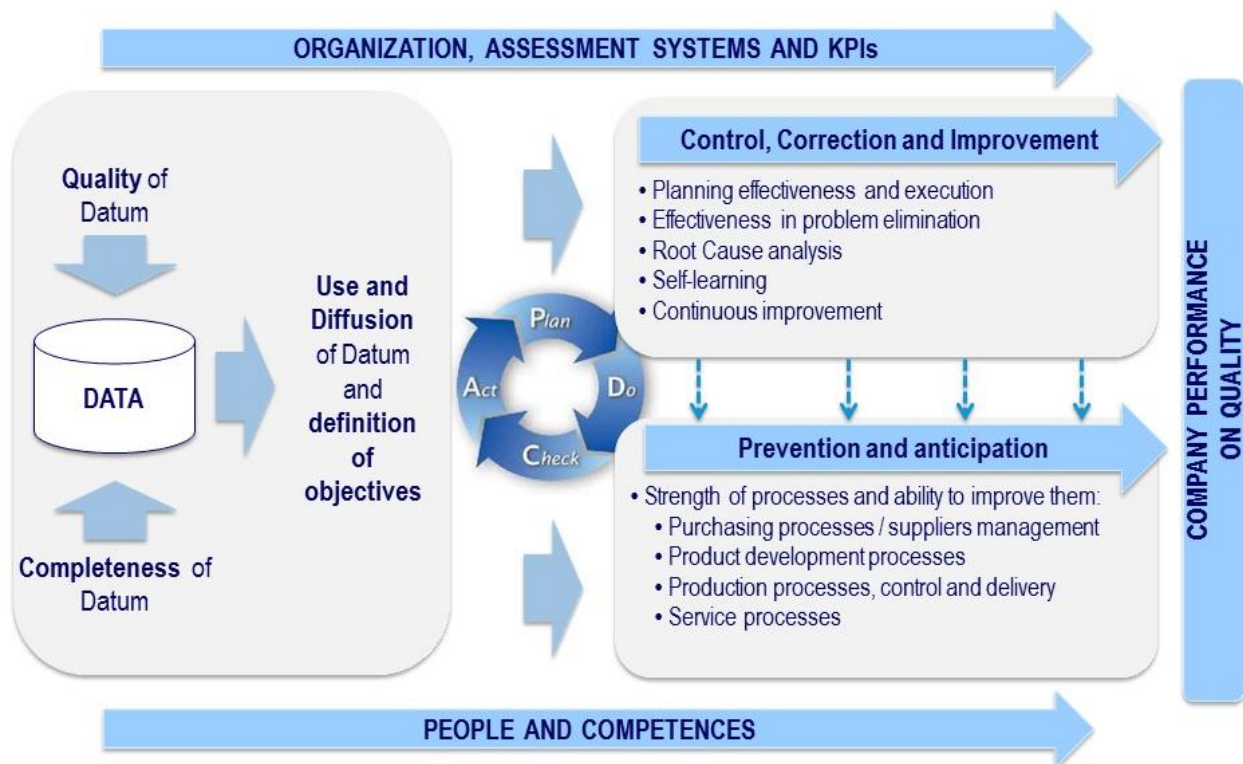


Figure 1: The integrated system of quality assurance

It must be also borne in mind that the right balance between the **technical and management aspects** is crucial as well: holding technical expertise within the company is essential, but achieving excellent, stable and lasting results requires **significant efforts and management skills**, along with a **remarkable steadiness in the pursuit of the objective**, starting from the top management.

When realizing those principles, whatever organization will be able to influence positively all the component of the defectiveness of the products (Fig. 2), gaining at the same time other kinds of benefits (revenues, costs, and service level). The success stories of Japanese companies, Toyota in the forefront, show us that this is possible.

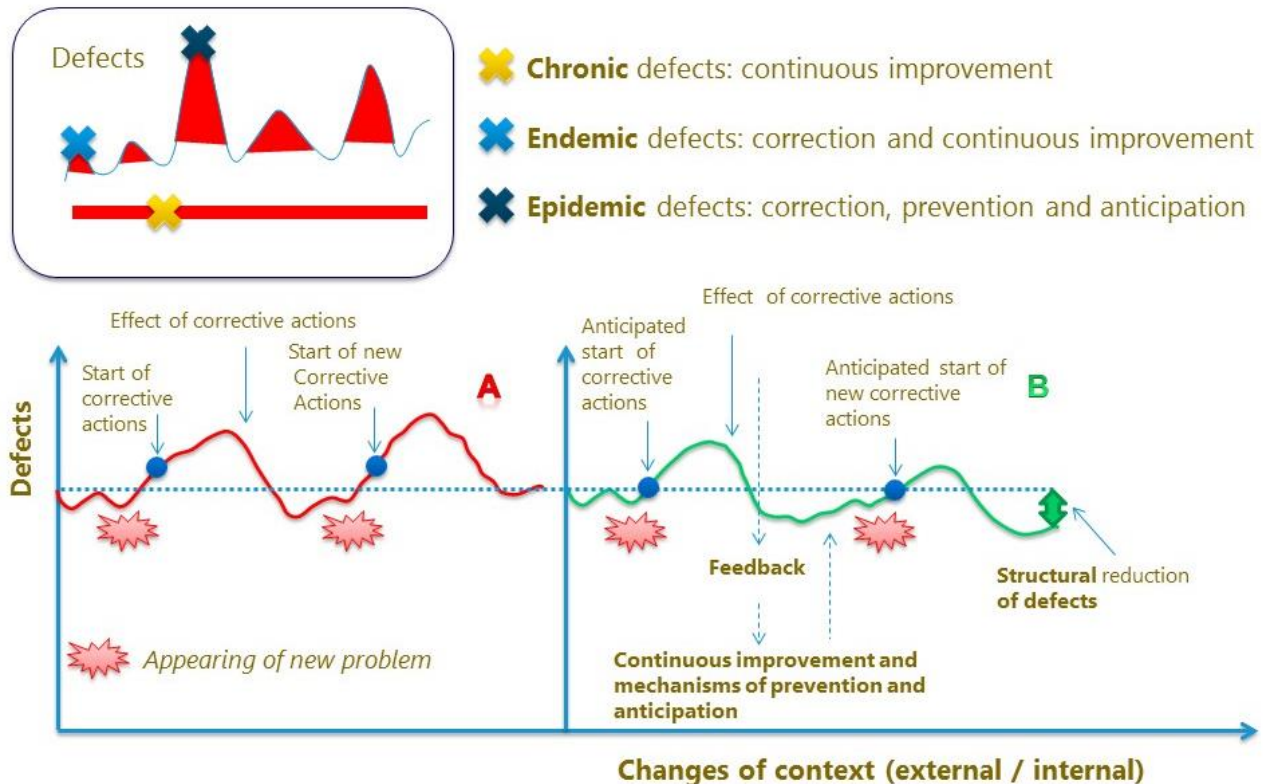


Figure 2: the three components of product defectiveness and the approach to be used to improve the quality

Company A: Profile of a company that works only by **reactive approach (ex-post correction cycles)**

Company B: Profile of a company that works by **correction cycles, continuous improvement and anticipatory and preventive approach:** the peaks of defects are less pronounced and the overall defect decreases.

How to practically act

Let me describe here below the concrete realization of the path that leads to excellence in quality, through the application and control of the five steps proposed.

STEP1: quantify the starting point and communicate widely

Being aware of your starting point is the first step required: it is therefore necessary to **collect, systematize and widely communicate** (even creating new specific occasions) the actual data on quality performance, to objectify the real AS IS situation and to initiate a process of organizational awareness with respect to the topic. During this phase, it is also useful for this purpose to translate the dimensions used by quality specialists in a simple and clear quantity for everyone: **the cost of non-quality**.

Furthermore, the adoption of an accounting system of non-quality costs, will enable the firm to control and to economically and financially plan these costs (in the same way that companies normally do, for instance, for the material and components purchasing costs), as well as to include these costs in the decision based on Total Cost.

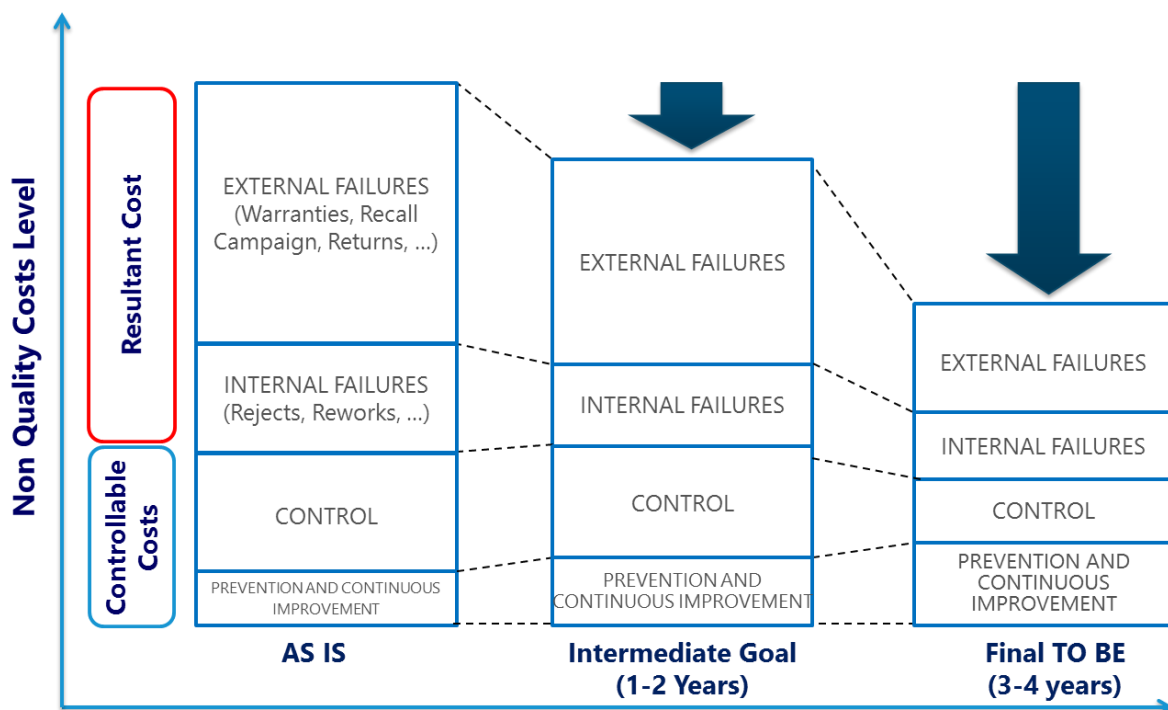


Figure 3: planning of the non-quality cost

STEP2: targets and program organization

The setting of targets for improvement is crucial for a successful project. Objectives should be challenging but realistic; above all they must be defined interactively with

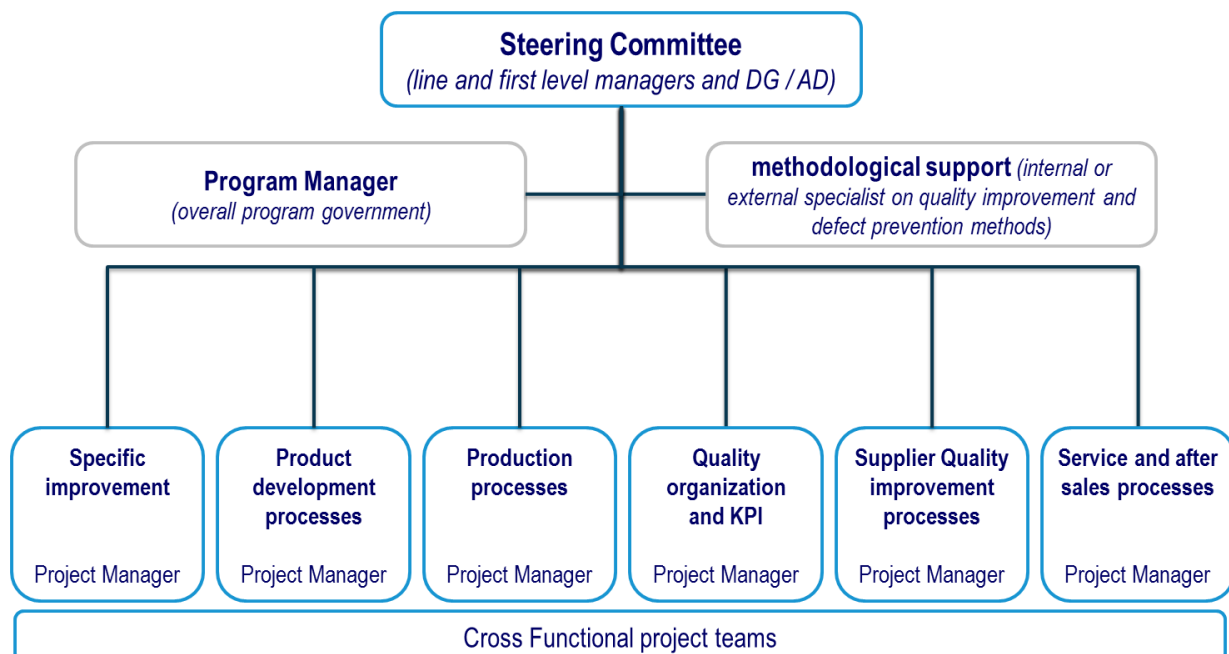
those managers who will be called upon to contribute or to engage their own resources in the path for improvement.

It is also necessary to establish immediately a cross-functional task force, made up of middle managers and top managers (directly reporting to CEO / Board of Director). The task force will be acting as a steering committee for the project and run a bidirectional communication: towards the CEO / Board of Directors, for checking the project progress, and towards the rest of structure to convey commitment, motivate resources, and to sponsor internally the quality program.

The organizational program structure should be also comprehensive of an intermediate level of program management, along with a level of government of specific improvement projects and defect prevention for all the relevant business processes, each of them composed of **cross-functional project teams** led by an internal project manager.

Finally, in many cases a methodological support is useful across the project teams, to foster the analytical assessments, as well as the implementation of method for specific improvement of quality and the identification and realization of mechanisms to prevent and anticipate new problems.

An example of a **program organization** is in the chart here below:



STEP3: create the enabling conditions

Within the firm, especially in the complex ones (for number of resources, geographic dispersion, variety of products, etc.), it is also essential to assess the consistency of

the macro-organization with respect to the objectives of the program. The organizational structure is one of the major enablers for the success of a process of improvement, and this must never be neglected: one should think back in fact, if necessary, about the roles, responsibilities, coordination mechanisms and MBO system. This should concern the quality function and other areas / roles as well (as far as their job affects the final quality of the product): either by creating, for instance, a widespread system that provides incentives not only on cost but also on quality, or by generating some cross-functional coordination mechanisms between the quality department and the other functions, or by redefining part of the organizational chart.

STEP4: set the corrective and continuous improvement processes

Corrective action means the set of actions focused on reducing the defects of existing products (whether make or buy ones). The work can be considerable, so it is essential to use the company power comprehensively, by setting the already mentioned cross-functional teams with crosswise skills, and engaging them on the achievement of specific improvements. Those teams, **sponsored by line managers and by top management**, will act like many small engines inside the system, operating with structured methods (e.g. applying the PDCA or DMAIC cycle, and specific Kaizen tools) both on chronic and endemic defects, and on new problems (intercepting them as earliest as possible). By doing so, they will contribute to continuously improve the quality level (remember: you cannot stop/ be idling, either step on or get worse!).

STEP5: ensure sustainability through prevention and anticipation

The final challenge, the more difficult perhaps, for the companies is to ensure the maintenance of the desired conditions. If all the corrective actions get successful in fact, the goals are crossed; but how long will the level achieved be maintained if the company doesn't get ready to intercept and block the new defects, aiming also at further reducing the current level of defects?

Two are the key aspects to achieve this goal, which should be integrated in the mechanisms and in the business processes. One is **prevention**, namely the elimination at the source of the causes of past errors, thanks to the lessons learned from the corrective actions. The second is **anticipation**, i.e. the detection and management since the early stages of new product conception of any potential, new and unknown problems, before they occur.

Finally, we can end by recalling that the lean management provides multiple methods and tools to achieve prevention and anticipation within the different business processes; one of the key points, however, lies in the ability to customize these methods and to apply the tools correctly; while a second (but equally important) point is the proper activation and management of people.

The experience of JMAC says that is not enough to fix the use of a method by a directive/rule to ensure its success. Even the simplest tool requires **experience, patience, application and involvement of the human capital**. Ingredients that can become true only by means of a robust structure, and based on sound and real capabilities of project and program management.

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Giovanni Capozza has been working since 2007 as a consultant in JMAC Europe, mainly in continuous improvement and processes optimization projects, in Italy and in other European countries. His consulting efforts are devoted to lean methods application, both for R&D and Supply Chain processes –with the aim of improving companies operational performances (QCT), together with the parallel goal of coaching people-, and also to the Project Management of internal projects within client companies. Giovanni can be contacted at g.capozza@jmaceurope.com