

CHANGE MANAGEMENT: A CASE STUDY

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Abstract

The study sought to develop, implement, and evaluate an organizational renewal of the quality function in a large scale production in a small domestic appliances factory. In order to evaluate the impact of the change process involving the existing quality system, a change process was implemented following the causal cycle composed of several stages, as follows: environment conduciveness, psychological pain, new mythology, precipitating agent, chaos, and re-establishing the order. The first stage involved the definition of two vital quality performance indicators to sense the evolution of the effectiveness of the intervention. The second stage was to prove via facts and data that is better the face the effort of change than run the risk of keeping the status quo. The third stage involved the definition of a vision of the future to be pursued by the team. The fourth stage involved a diagnosis of the existing situation and the definition of an improvement plan involving 11 dimensions of the Quality Function. The fifth stage, called chaos, involved the implementation of the improvement plan. The last stage was the re-establishment of the order by implementing new rules and norms. The composed quality indicator involving conformance and reliability has shown an improvement of 140%, particularly the field call-rate, that involves the image of the organization, improved 430%.

Key – words: change, organizational renewal, quality system, causal cycle.

Introduction

By our everyday experiences, stresses, and conflicts, and by modern learning and mass media we are continuously reminded that we are living in a world characterized by rapid social and technological change. Mark Twain once said, “The only person who likes change is a baby with a wet diaper”. Like it or not, in the dynamic society surrounding today’s organizations, the question of whether change will occur is no longer relevant. Change will occur, it is a continuous process in the universe. It is no longer a choice. Instead, the issue is how do managers and leaders cope with the inevitable barrage of changes that confront them daily in attempting to keep their organizations viable and current (Hersey, 2001)? Although change is a fact of life, if managers are to be effective, they can no longer be content to let change occur as it will. They must be able to develop strategies to plan, direct, and control change. The most general lesson to be learned from the more successful cases is that the change process goes through a series of phases that, in total, usually require a considerable length of time (Lippitt, 1973). Skipping steps creates only the illusion of speed and never produces a satisfying result. A second very general lesson is that critical mistakes in any of the phases can have a devastating impact, slowing momentum and negating hard-won gains (Kotter, 1995).

A very important aspect in the present changing process – Renewal of the Quality Function, is to consider the concept of Quality Costs which consider three categories:

- Prevention: all efforts done by the company during the design phase of the product or service,
- Appraisal: all efforts done by the company during the process of materialization of the product or service,
- Failures: a) internal – non-conformances that occurs during the internal processes, and b) external – non-conformances that occurs in the field during the warranty period.

The Figure 1, as follows, shows the several phases of the changing process according to Smelser (1962).

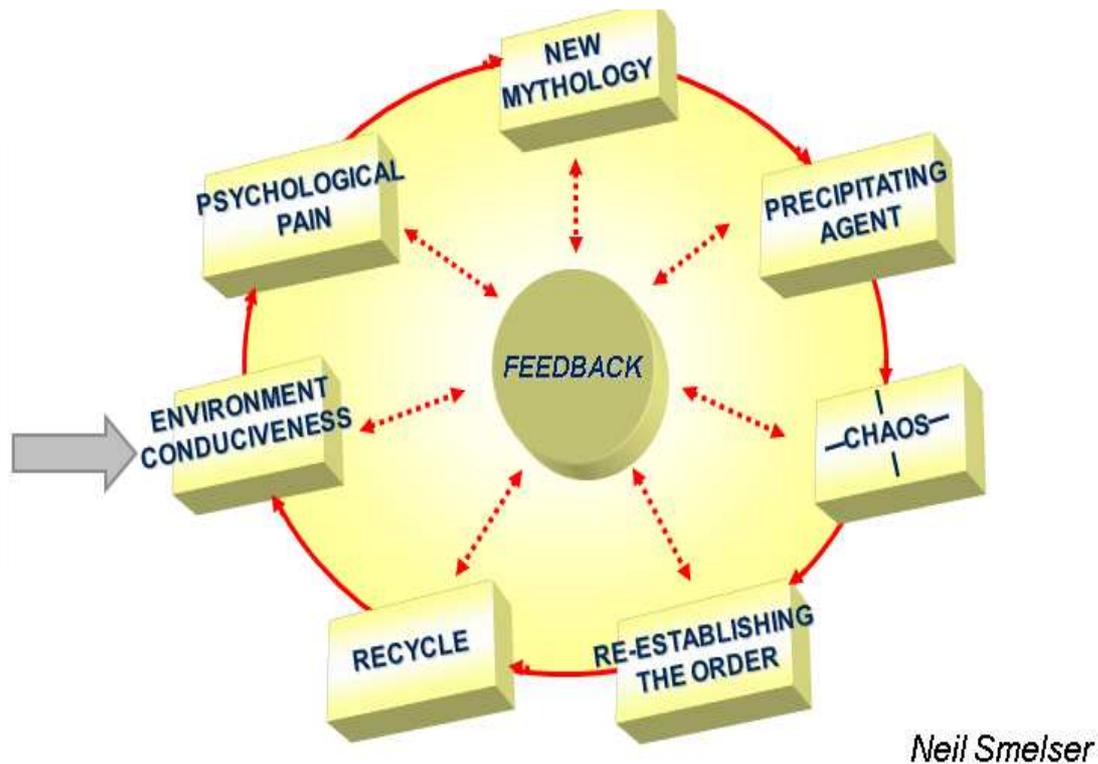


Figure 1 –Change Process / Causal Cycle

The six phases are defined as follows:

Phase I – Environment Conduciveness

- Clearly define the change purpose: Renewal of the Quality Function,
- Personal commitment to the change by the top management, and
- Select few Key Performance Indicators to follow up the change process with short-term goals to meet and celebrate (short-term wins). Two quality indicators were selected: a) defect rate at the assembly lines, and b) field call-rate (movable annual total)

Phase II – Psychological Pain

- Firm, relentless, and indisputable communication of the impossibility of maintaining the status quo,
- Stablishing a sense of urgency, and
- Using facts and data. An international data gathering was conducted and presented to the managers.

Phase III – New Mythology

- Creating a vision to help direct the change effort, as shown in Figure 2.

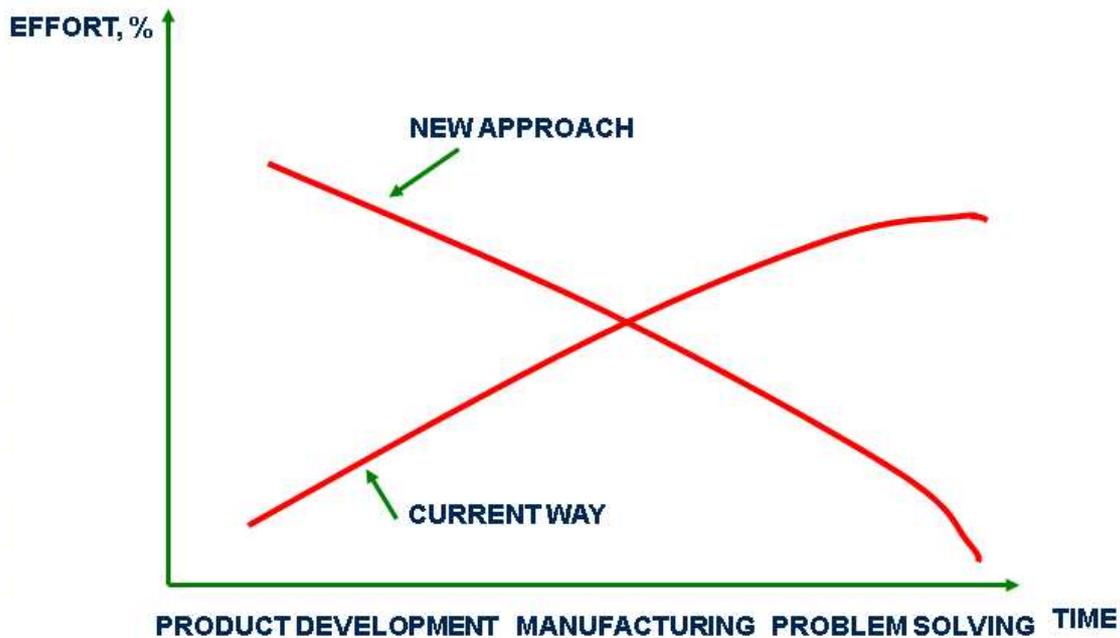


Figure 2 – The New Strategy

- Communicating the vision, and
- Developing strategies to achieve that vision.

Phase IV – Precipitating Agent

- Diagnoses:
 - Models and instruments (quantify using a scale)

Dimensions: Reliability, Functionality, Manufacturing Conditions, Process Planning, Quality Planning, Machinery and Equipment, Tools and Jigs, Manpower, Materials' Quality, Handling and Quality Consciousness.
 - Group discussions (critical mass) -using the Delphi Technique the group reach the scores as shown in Figure 3.

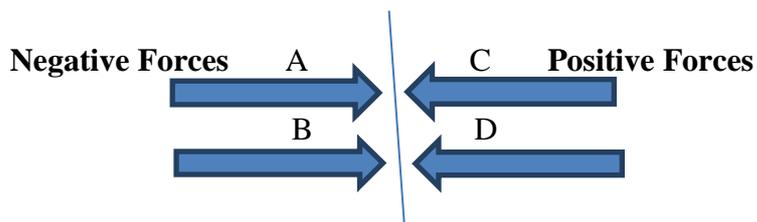
**AGREED SCORES FOR ACTUAL AND FUTURE
SITUATION PER DIMENSION**

DIMENSION	ACTUAL	FUTURE	"GAP"
1. Reliability	3,5	5	1,5
2. Functionality	3	4	1
3. Manufacturing Conditions	2	3	1
4. Quality Planning	3	5	2
5. Process Planning	3	5	2
6. Machinery and Equipment	3	4	1
7. Tools and Jigs	3	4	1
8. Manpower	3	4	1
9. Materials' Quality	3,5	4,5	1
10. Handling	3	5	2
11. Quality Consciousness	2,5	4,5	2

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Figure 3 – Agreed Score for Actual and Future Situation per Dimension

- Force Field Analysis - minimize or eliminate negative forces and enhance or create positive forces.



- Planning the change (what, who, and when).

Phase V – Chaos

Regenerative chaos, putting into action the planned actions.

Phase VI – Re-establishing the order

- Implement reward and recognition systems,
- Training and development of people, and
- Implementation of new procedures and norms.

1. Background – the factors which led to the changes

The present case study involved one Small Domestic Appliance company, located in Brazil, producing at the time of the experiment around four million units per year, net sales of US\$ 120 million, and employing 1,400 persons.

When the experiment started, quality control practices were in the conventional way emphasizing appraisal, very few prevention activities were conducted, therefore quality figures were very poor and with high variability, that means the processes were not under control, and facing problems originated in the design phase. The personnel were tense and there were latent feelings of dissatisfaction. The costs of Failures (internal plus external) were around 4.5% of net sales.

1.1. Content of change

Inspired by the aircraft industry strategy, where prevention activities are mandatory by federal regulations, a Release Department was created, within the Quality Assurance Division structure, with the responsibility and authority of conducting the majority of preventive works, including the final recommendation for the Board of Directors regarding the New Products launching.

2. Results and Analyses

The Figure 4, as follows, depicts the trajectory of the Total Quality Costs divided in the categories of Prevention, Appraisal and Failures, along the time.

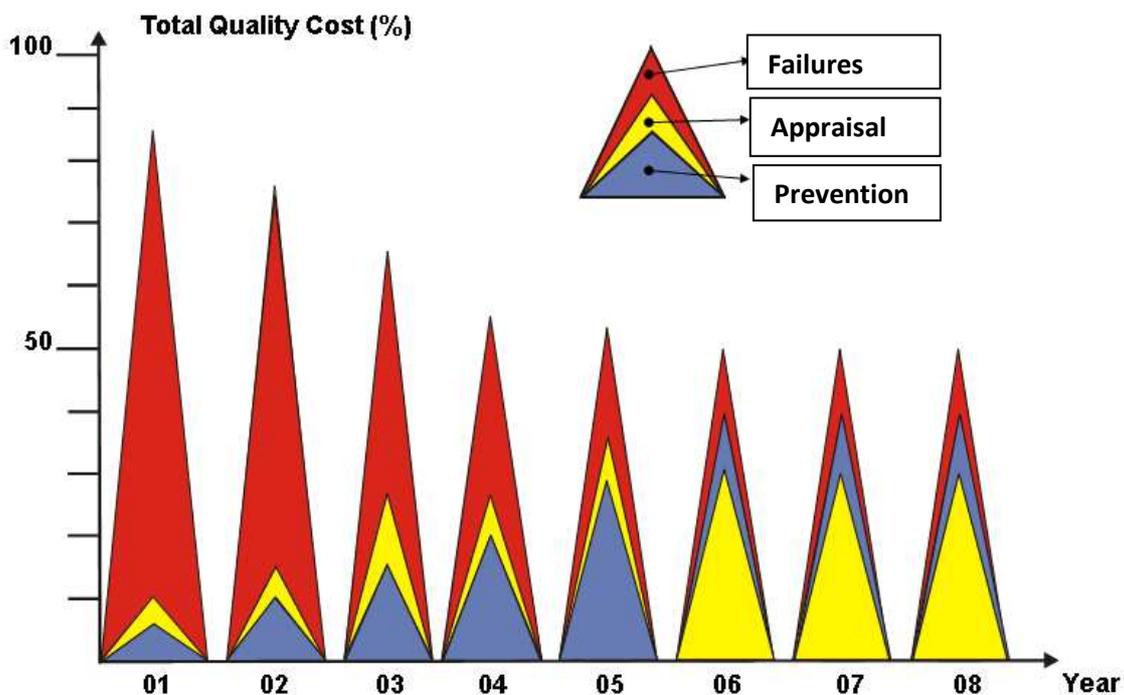


Figure 4 – Deployment of Quality Cost per Category (Prevention, Appraisal and Failures)

As can be seen the re-definition of the efforts emphasizing Prevention has provoked reduction on the Total Quality Costs. Figure 5 presents the Quality Costs reduction per produced unit along the time, once the produced quantity increased a lot, year by year, it was necessary to consider the relative value.

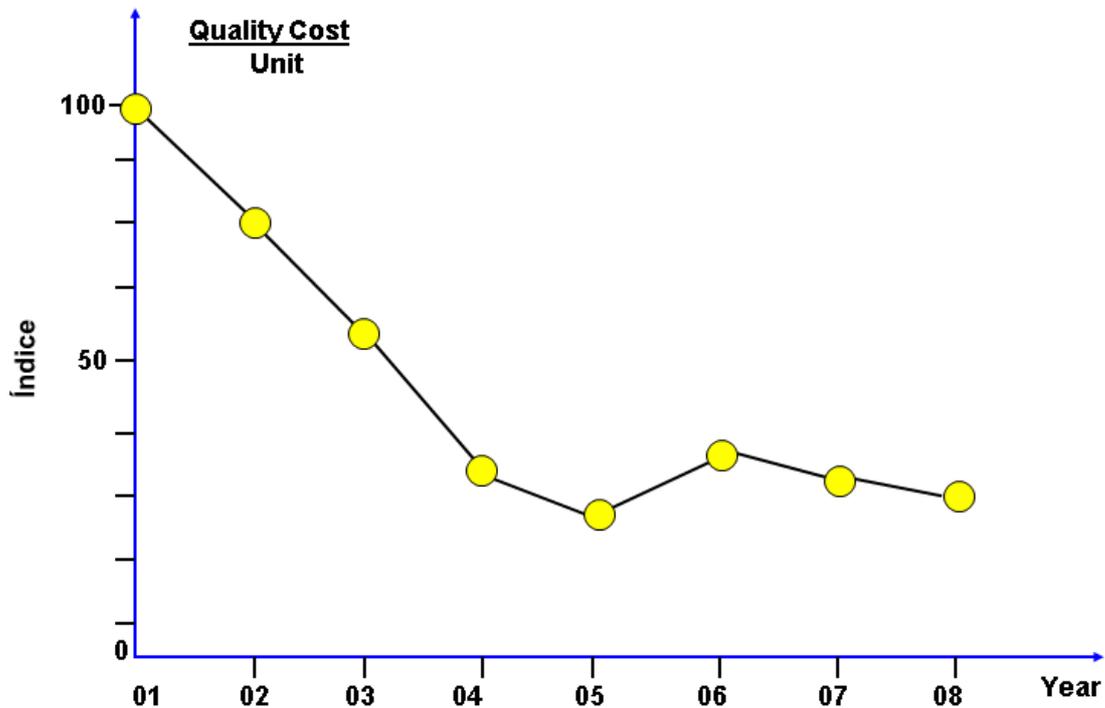


Figure 5 – Quality Cost per Unit Produced/Time

The improvement was very high in the first four years, then we had an increase, due to the fact of the introduction of new quality control equipment, leading to a more severe control. Figure 6 shows the evolution of Total Quality Cost/Unit versus the Composed Quality Level of the products (internal quality and field quality).

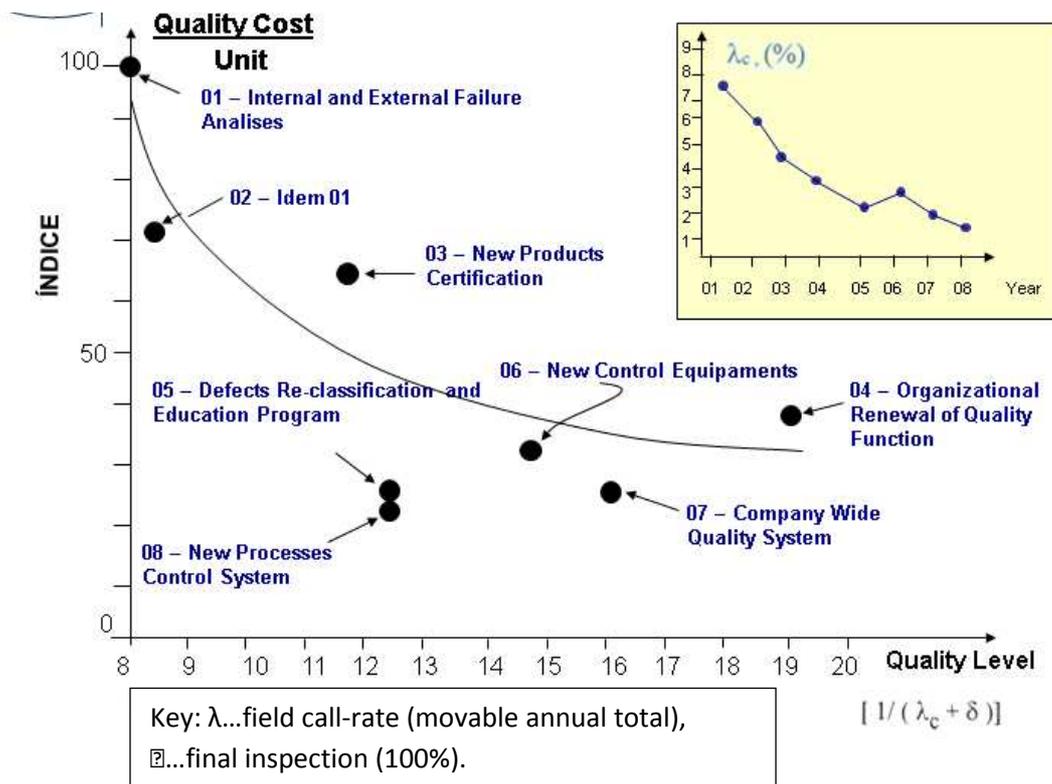


Figure 6 – Evolution of Total Quality Cost x Composed Quality Level

Figure 6 presents which efforts were implemented along the time, being the New Products Certification procedure together with the organizational change, involving the creation of the Release Department, the more important ones. Other information depicted in the Figure 4 is the improvement of the Field Call-Rate (Movable Annual Total). The composed quality indicator involving conformance and reliability has shown an improvement of 140%, particularly the field call-rate, that involves the image of the organization, improved 430%.

Conclusions

The prevention-oriented strategy was of major importance to assure compliance with quality specifications and costs reductions. Inspired by the work structuring idea in order to implement the new strategy a new method of working with new products approval was introduced, and the Release Department was created, responsible for coming up with all the analyses related to the certification of a new product, e.g. life cycle simulation tests, internal and external (Suppliers Approval) processes capability analyses, safety analysis, key components evaluation, and feasibility of manufacturing. Additionally to that, the Release Department started to co-ordinate all other investigations conducted by all involved areas considered in the Product Creation Process. This case study showed that participation was of essential importance for the success of the experiment.

References

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