

MANAGEMENT OF QUALITY ASSURANCE SYSTEM AT S.C. AMBASADOR PLUS S.R.L.

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ABSTRACT

This paper presents some conclusions on management of quality assurance system at S.C. AMBASADOR PLUS S.R.L. There were examined aspects of designing of quality assurance system, the aim of quality management, implementation of management system according to European conditions. There are presented proposals for the management of such enterprises in difficult decisional process. All conclusions are made under integrated engineering analyze.

1. General considerations

Establishing of optimum is a very difficult process, determined, in the same time, by many variables as: type of energy, placement of source, availability, prices at date and strategic trends, local law, environment and other conditions, local and general political decision etc.

Based on some consideration, in the next paper will be presented the principles of system for quality management, with some technical solutions for manufacturing equipment for heating and generate warm water – small capacities – and for industrial systems, only for auxiliary sectors (human hygiene, dressings, showers, small offices etc.).

In Romania, the power supply network and gas distribution network are not much developed, for that S.C.AMBASADOR PLUS S.R.L. developed systems, both for heating and warm water generators that use, principally, as energy source, the solid fuel (wood, coal, pallets etc).

Currently the most important problem in the activity of attempt to enterprises with mechanical manufacturing system is to optimize the work process, according to different and difficult criteria, which are considered at the same time in many fields: technical, economic, political, social and strategic.

On the other hand, efficiency problems of enterprises both in economical and technical dimension impose reconsidering, with much careful, of the energy problem, both on investment cost and consumption cost.

2. Objectives and method

Introduction of new quality assurance system start with the process of criteria establishing, that must be organized according to integrated engineering principles.

It starts on general criteria as:

- production maximization;
- business maximization;
- economic equilibrium;
- decreasing of enterprise risk;

- maximization of customer satisfaction;
- maximization of employees satisfaction;
- maximization of quality;
- minimization of energy consumption;
- minimization of environmental effects, according to the third assessment, Kiev (2002);
- sustainable development etc.

The second step was to edit the book of quality, according to general enterprise policy about quality adopted by general director: general satisfaction of all customers demands: explicit and implicit.

General objective can be made by next specific objectives:

- correction of general objective according to specific customer demands for all products with ELTIM trade mark;
- identification of customers implicit necessities for satisfaction of needs and demands;
- giving of technical assistance and consulting for correct choosing of product really needed by customer according to good usage of it's financial resources;
- guarantee that customers demands are understand, right interpreted and complete realized;
- realizing of enterprise products quality in condition of economic efficiency, determined by:
 - permanent optimization of manufacturing ways and technologies and maintaining of equilibrium between quality costs and his value;
 - warning of quality failed on entire quality curl (design, manufacturing, service assurance);
 - obtaining of favorable image on the market by quality, constant delivery of certified products, respecting of dead lines, performance publicity etc.

An important problem was the organization of manufacturing and quality information system, according to Draghici [1], presented in figure 1.

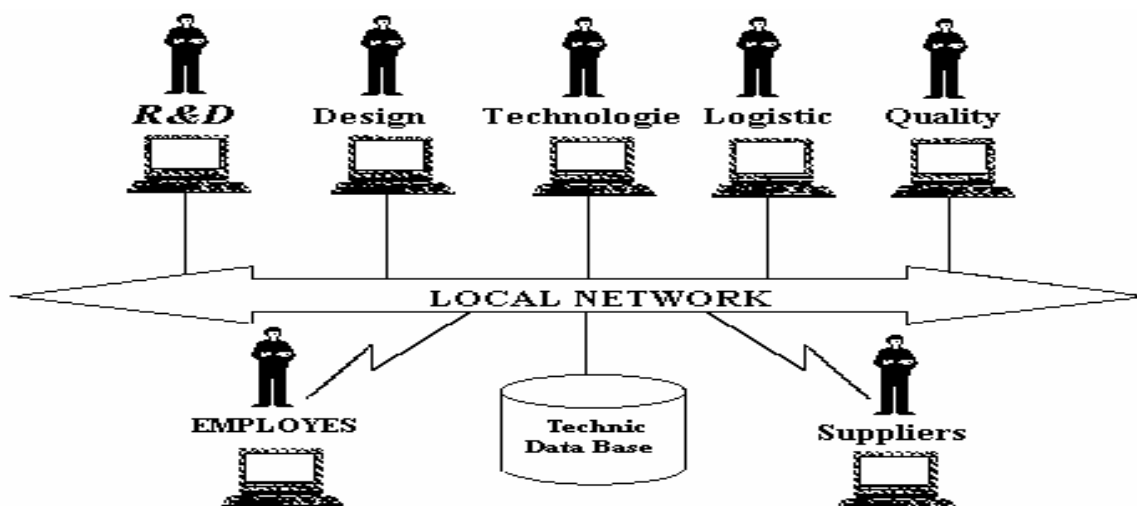


Figure 1. Model for quality manufacturing information system

The quality aims are elaborated and coordinated by one institutionalized mechanism of quality management, named Quality Council (QC), that include executive management. Its head is the General Director.

It works in periodic reunion, when debate, make decisions and design on quality problems.

The quality system includes the next system procedures:

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|----------------|------------------------------------|
| SMC-ELTIM-PS01 | - document control; |
| SMC-ELTIM-PS02 | - registration control; |
| SMC-ELTIM-PS03 | - responsibilities of management; |
| SMC-ELTIM-PS04 | - resources management |
| SMC-ELTIM-PS05 | - customer relationship; |
| SMC-ELTIM-PS06 | - intern audit; |
| SMC-ELTIM-PS07 | - controlul of nonconform product; |
| SMC-ELTIM-PS08 | - correctiv actions; |
| SMC-ELTIM-PS09 | - preventiv actions. |

The operational procedures are:

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|-----------------|--|
| SMC-ELTIM-PO.01 | - design and product development |
| SMC-ELTIM-PO.02 | - supply |
| SMC-ELTIM-PO.03 | - service and manufacturing activities |
| SMC-ELTIM-PO.04 | - equipment for monitoring and measuring control |
| SMC-ELTIM-PO.05 | - processes measurement and monitoring |
| SMC-ELTIM-PO.06 | - product measurement and monitoring |
| SMC-ELTIM-PO.07 | - identification and traceability |
| SMC-ELTIM-PO.08 | - product storage. |

For manufacturing process there are used next work recommendations:

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|----------------|--|
| SMC-ELTIM-IL01 | - elaboration of design topic; |
| SMC-ELTIM-IL02 | - elaboration of presentation memory; |
| SMC-ELTIM-IL03 | - elaboration of enterprise standard; |
| SMC-ELTIM-IL04 | - elaboration of technical book; |
| SMC-ELTIM-IL05 | - elaboration of quality plan; |
| SMC-ELTIM-IL06 | - reception of supplied products; |
| SMC-ELTIM-IL07 | - mechanic manufacturing; |
| SMC-ELTIM-IL08 | - welding; |
| SMC-ELTIM-IL09 | - cold plastic deformation; |
| SMC-ELTIM-IL10 | - plastic injection; |
| SMC-ELTIM-IL11 | - classic painting |
| SMC-ELTIM-IL12 | - painting in electrostatic field; |
| SMC-ELTIM-IL13 | - products packaging |
| SMC-ELTIM-IL14 | - products handing; |
| SMC-ELTIM-IL15 | - products storage; |
| SMC-ELTIM-IL16 | - inspection before delivery; |
| SMC-ELTIM-IL17 | - conservation and delivering of products; |
| SMC-ELTIM-IL18 | - reject accounting. |

Next step in design of quality management was the system optimization, according to national and international settlement.

3. Methods and models for analysis and optimization

The structure and steps included in practical optimization process are presented in figure 1. Application practice involves a lot of mathematic methods, that start with establishing of criteria hierarchy, quality costs and possibilities for application in enterprise manufacturing process.

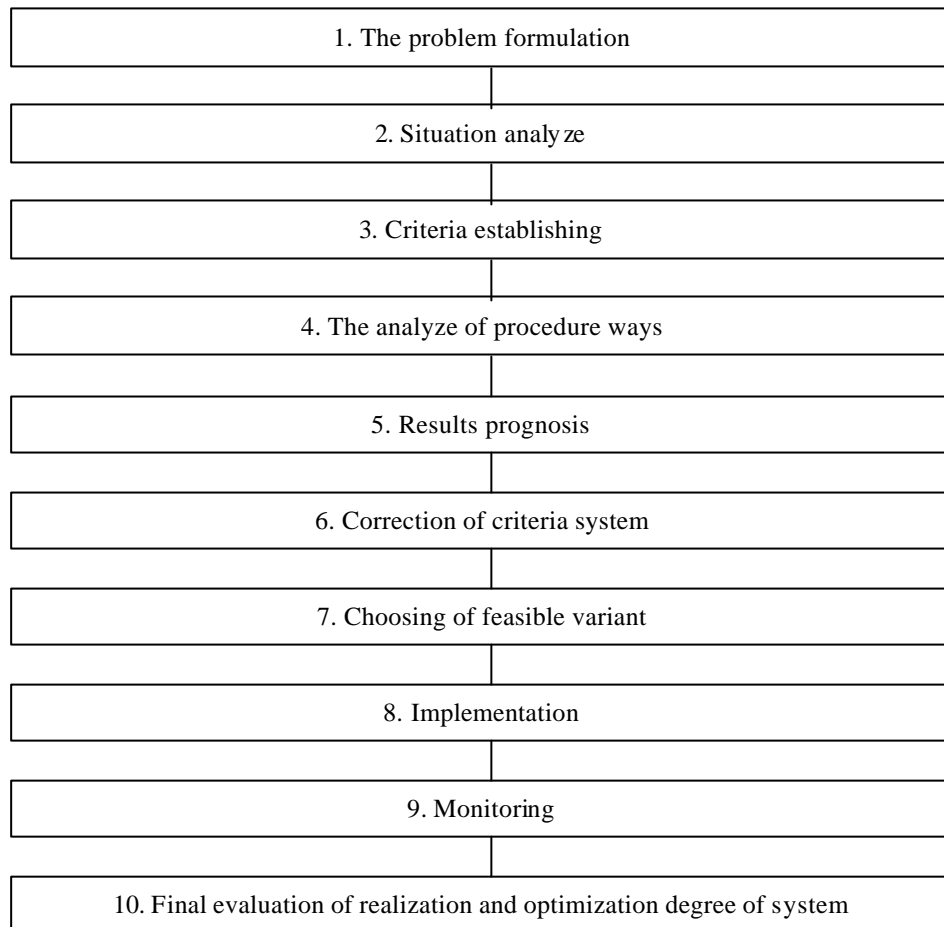


Figure 1 Operational structure of optimization process

Total costs are determined by the costs of implementing the measures themselves and those of administration, monitoring and enforcement.

Investments made will assure the increase of market quota and sales volume.

It is expected also the decreasing of reject and manufacturing costs.

4. Conclusions

The evolution of mechanical manufacturing enterprises in Romania needs the introduction and certificate of quality assurance systems, according to EU standards, so that the efforts must be well distributed in the next business.

All managers must adopt these problems as complex situations, their optimization, as a necessity will be made by combining mathematical methods with real situation.

References

- [1] Draghici, G. (1999). *Ingineria integrata a produselor*. Editura Eurobit, ISBN 973-96065-7-1, Timisoara
- [2] * * * SR EN ISO 9000 :9001 Sisteme de management al calitatii
- [3] * * * SR EN ISO 9004 :2001 Sisteme de management al calitatii