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# SOME ASPECTS REGARDING QUALITY INSTRUMENTS

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**Abstract:** paper presents some aspects regarding instruments utilized in project management, starting with cause-effect diagram, Pareto diagram, control graphics and other methods of evaluation and control, meaning people, information, materials and finance. There are presented as a table with questions to all problems to be solved by the project leader (PL) and to get answers.

## 1. INTRODUCTION

An organization and his suppliers represent interdependent entities; a mutual relation with bilateral benefit helps both parts to create values.

Based on this principle, the next actions lead to:

- identify and select key suppliers;
- find relations which establish an equilibrium between the short time obtained benefit with this influences on long time in organizations or, generally, in society;
- create a clear and open communication channel;
- initiate actions for process and products improvement;
- establish a good understanding of client needs;
- disseminate information's taking into account futures plans;
- recognize supplier's improvement and realizations.

Benefits obtained related of this principle are good to: formulate strategy and company politics; define objectives; operational management; human resources management.

## 2. QUALITY INSTRUMENTS USED IN PROJECT MANAGEMENT

### 2.1. CAUSE- EFFECT DIAGRAM

**Table 1**

| WHO? | WHERE? | WHY? |
|---|---|---|
| • Who usually does?<br>• Who does it now?<br>• Who should do it?<br>• Who else can do?<br>• Who else should do? | • Where is something to do?<br>• Where is it done?<br>• Where should it be done?<br>• Where else can it be done?<br>• Where else should it be done? | • Why does he do?<br>• Why do it?<br>• Why do it there?<br>• Why do it then?<br>• Why do it this way? |
| **WHAT?** | **WHEN?** | **HOW?** |
| • What is to be done?<br>• What is being done now?<br>• What should be done? | • When is there something to do?<br>• When is it done?<br>• When should it be done? | • How can it be done?<br>• How is it done?<br>• How should it be done?<br>• Can this method be |

| | | |
|---|---|---|
| • What else can be done?<br>• What else should be done? | • When else can it be done?<br>• When else should it be done? | used in other fields?<br>• How else can it be done? |

Studying this diagram is important to:

- allow causes' finding for a particular effect;
- identify ways of efficiency, efficacy improvement.

In figure 1 there are presented causes like: man, machine, method and material (the 4 "M"), which produce effects presented as questions.

Table 1 presents also generally questions that need answers from all implicated parts [3].

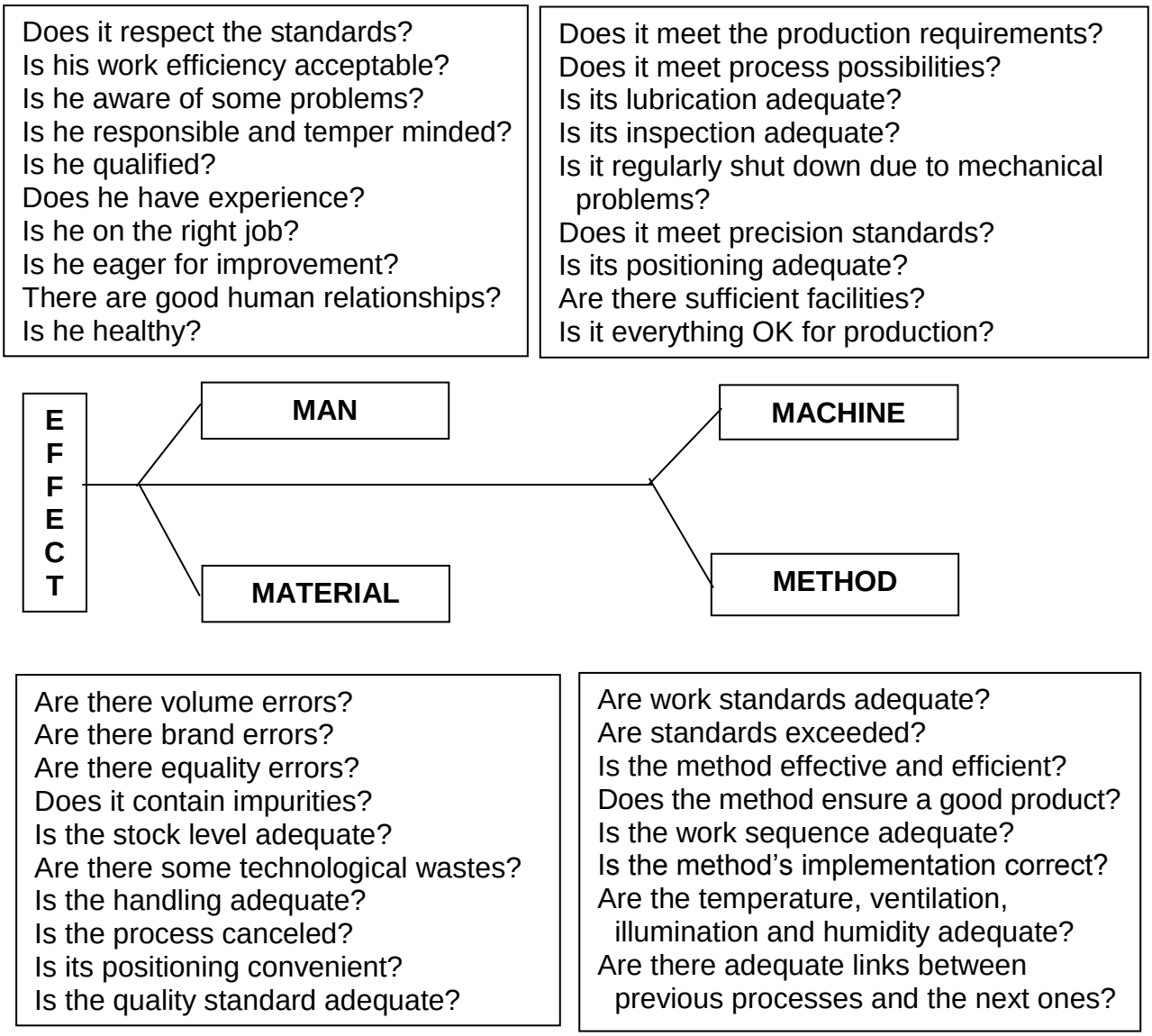
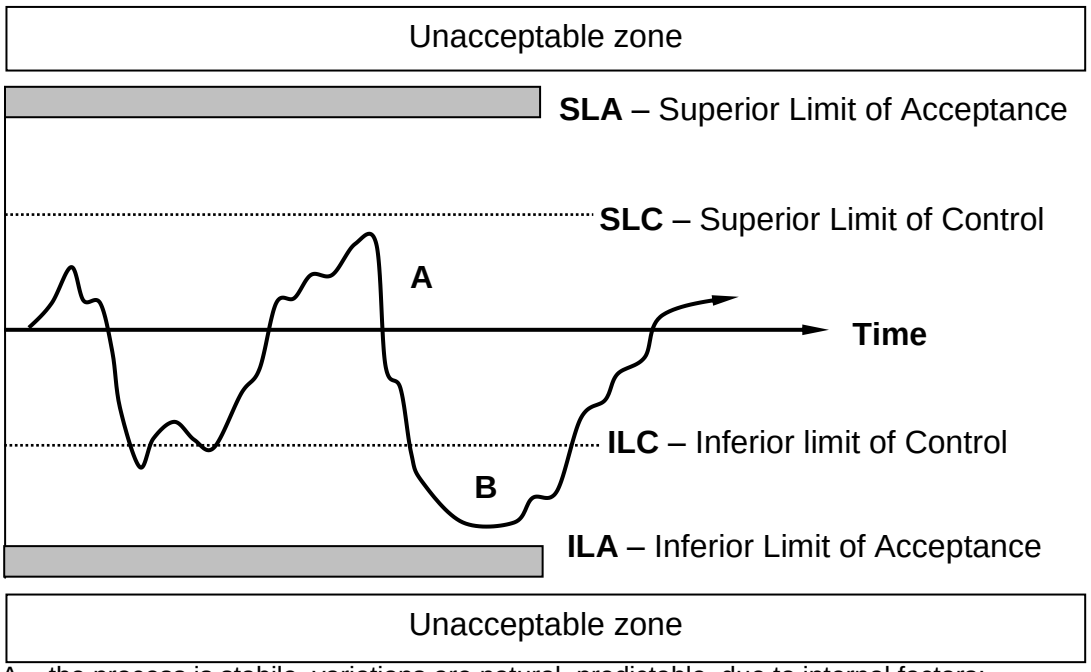



***Figure 1. Questions referring Cause – Effect Diagram***

## 2.2. CONTROL GRAPHICS

Control graphics are utilized to survey economic processes. For the critical parameters of
project/production there are registered all graphic values, in different moments. The control is assured if the obtained values are between acceptable limits. For example the project budget is established between a superior and inferior limit, under that is a tunnel of acceptance, related to project planning [2, 3, 10].

There are a lot of other instruments for the quality control of project activities. As examples are: affinity diagram, relationship diagram, tree diagram, matrix, alternatives, flash, analyze of principals components, histograms, stratifications, flux diagram, a.s.o. Important is to know client and his needs. If all is establish in preplanning period, or it exists a good negotiation team to find clients, to find exactly what do they need. To satisfy them, in that case the success is assured.




Zone A – the process is stabile, variations are natural, predictable, due to internal factors;
Zone B – the process is instable, out of control, variations causes to external factors [2, 3].

***Figure 2. Control graphics***

Having alternatives means a good management, as seen in table 2

**Table 2**

| PROCESS | ALTERNATIVES |
|---|---|
| ♦ Ensuring raw materials;<br>♦ Ensuring a good work environment;<br>♦ Acquisitioning materials;<br>♦ Participating of team members;<br>♦ Managerial leading on. | ♦ Manufacturing **or** from exterior;<br>♦ One location **or** more locations;<br>♦ Stock **or** JIT;<br>♦ Consultations **or** negotiations **or** imposed decisions;<br>♦ autocrat **or** participative **or** permissive **or** tyrannical **or ...** |

## 3. EVALUATION AND CONTROL

The rule of a correct project is: SUCCESS = 50% PLANNING ✣ 50% CONTROL.

The basic elements of control are:

1) Standards regarding performance level;
2) A technical measuring method, instrument;
3) Comparison of the achieved performance to the presumptive one;
4) Deviations estimating „plus" or „minus" related to the estimated;
5) Report to control factor (feedback);
6) Others ways;
7) The new actions' impact on the budget, time, quality and expectations;

If big variations appear it is necessary to analyze – Why? What can be done? What have to? Corrective actions? Expected results?

Control includes → people; information; materials; finances.

A) People

For a good people evaluation it is necessary to measure periodically performances [5]. Evaluation means measuring **e**fficacy, **e**fficiency and **e**ffort (the 3 "E"), as can be seen in figure 3:

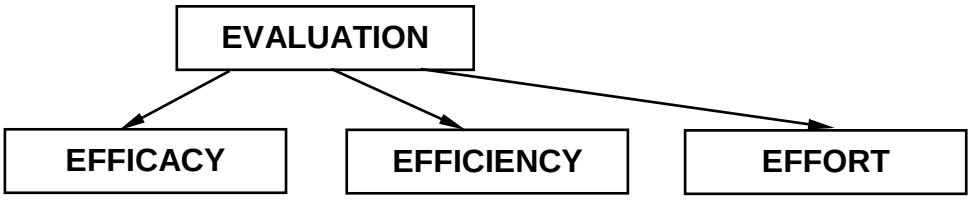



***Figure 3. Evaluation process***

For offering a stable and objective feeling in the way to establish employees' charge is necessary to make the achievement analysis → achievement package; duty process

B) Information

Have to be:

- opportune - available immediately after the event;
- clear - no doubt perception;
- complete - all data given;
- concise - no un usefully details;
- correct - according to reality;
- relevant - useful and essential.

A good planning of the informational flow leads to clients' satisfaction and demands in accessing to the information. There are projects in which client has a dedicated person/delegate involved full-time in project realization. This is a delicate problem for the lieder and for the entire team, the dedicated person desiring to have access to all information's/documents, as "spy" [6].

Sometimes the PL can fall in a "trap", usually at the beginning of a project, when the instinct and experience said: "let's begin earlier…don't loose time, to out sail some days/week etc.

C) Materials - ensemble of actions, which ensure the client and PL that the materials and equipments will be available regarding
   - quantities
   - quality
   - place
   - right time

D) Finances
   - estimation before planning
   - budgetary control
   - comparison among effective expenses and the predicted ones
   - periodically report

## 4. CONCLUSIONS

Bank (1992) suggests *5* criteria for quality measuring:

1. Destination: what I have to expect from the product;
2. Conforming to needs: does it meet the consumer expectations?
3. Reliability: it keeps its quality in the future;
4. Cost: how much must to pay for the product / service;
5. Delivery: when I get the product?

Bank gives a new definition of quality: Quality means a complete and satisfaction fulfill of buyer demands at the lowest internal cost, meaning satisfying clients: beneficiaries of the product /service; realization of the product by many departments (design, forge, turnery, rectification, assembling etc. linked through the TQM).

Inside of an organization, its members have the quality of being client and supplier ⇒ TQM

By the point of view of TQM – the new management's role is to develop the supplier-client relationships (organization's culture).

Some negative aspects of TQM

- Loss of some skills: clients are interested in asked products; clients' demands make the organization's members to focus on them, losing some skills; loss by training, perfecting only of necessities ⇒ loss of personnel elasticity;
- Increase of control level: quality approach imply quality control intensifying, the employees lose their freedom to act and control their own activity; the employees become "clients' slaves";
- Division between winners and defeats: competitive system, many suppliers existence and their selection, coming up on the market;
- Quality is a „caprice": some authors say that TQM is a fashion, a caprice to camouflage the real problems of the organization.

In fact quality management means a lot of questions and a lot of answers.

> Stupid questions get stupid answers. (*Anonymous*)

## References:

1. **Barker, Sunny, Baker, Kim. The complete idiot's guide to project management: New York, Macmillan, 1999, ISBN 0-13-215609-1.**
2. **Breecham, Smith Kline. Introduction to project management: Budapest, 1999, ISBN 185805-085-5.**
3. **Dăneţ, Adrian. Managementul proiectului : Editura Disz Tipo Braşov, 2001, ISBN 973-98575-3-1**
4. **Eysenck, Hans. Descifrarea comportamentului uman : Bucureşti, Teora, 1999, ISBN 973-601-893-8.**

5. **Hill, Terry. Production & operations management: Londra. Prentice Hall, 1991ISBN 0-13-723727-8.**
6. **Kerzner, Harold. Project management – a systems approach to planning scheduling and controlling: New York. Van Nostrand Reinhald, 1984.**
7. **Marinescu, Nicolae-Mihail. The challenge – provocarea managerială modernă: Cluj Napoca. Promedia, 1993, ISBN 973-96114-1-9.**
**8. Săvescu, Dan, Budală Adrian. Methodes et outils pour la gestion de projet. Notes de cours. Metode si instrumente pentru managementul proiectelor : Note de curs. Universitatea Transilvania din Braşov, Braşov, 2007, ISBN 978-973-635-923-1.**
**9. Săvescu, Dan, Budală, Adrian, Alexandru, Cătălin. Managementul firmei : Editura Universităţii Transilvania din Braşov, Braşov, 2005, ISBN 973-635-352-4.**
**10. Săvescu, Dan. Quelques aspects sur les principes de la productivite et la structure organisatrice en Gestion de Projet : Analls of the Oradea University. Fascicle of Management and Technological Engineering. Vol VI (XVI), pag. 1302- 1307, Oradea, 2007, ISBN 1583-0691.**
**11. Săvescu, Dan. Sur la planification en Gestion de Projets : Analls of the Oradea University. Fascicle of Management and Technological Engineering. Vol VI (XVI), pag. 1308- 1313, Oradea, 2007, ISBN 1583-0691.**
**12. Săvescu, Dan. Some aspects about planning and risk evaluation. Annals of Oradea University, Fascicle of Management and Technology Engineering, Vol.IX (XIX), 2010, nr.2, pag.4237-4243, ISSN 1583- 0691.**