QUALITY INSTRUMENTS UTILISED IN PROJECT MANAGEMENT
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Keywords: quality, project management, cause-effect, control, evaluation

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

1. Introduction

“An organization and its suppliers represent interdependent entities; a mutual relation with bilateral benefit helps both parts to create values”
Based on this principle, the requested actions are:
- Identifying and selecting key suppliers;
- Finding relations that establish an equilibrium between the benefit obtained short run with this influences upon the organization on long time run or, for society in general;
- Create a clear and open communication channel;
- Initiate actions for process and products improvement;
- Establish a good understanding of client’ needs;
- Disseminate information taking into account futures plans;
- Recognize supplier’s improvement and realizations.

Benefits obtained from this principle are useful to: formulate strategy and politics for the company; define objectives; operational management; human resources management.

2. Quality instruments used in project management

2.1. Cause- Effect Diagram

Studying this diagram is important because:
- It allows the identification of causes for a particular effect;
- Identifies ways of efficiency, efficacy improvement.

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

Table 1 also presents generally questions that need answers from all implicated parts [3].
Finding solutions represents the improvement plan of quality (Deming cycle: P - plan, D - do, C - check, A - act), first of all is to check, after to apply, finding solutions from a data base of possible solution, also taking into account the feedback (figure 2) [3, 8].
2.2. Pareto Diagram (Pareto rule)

It is the rule 80 – 20.
E. g.: 
- 20% of clients give 80% of profit;
- 20% of stock (material for products, material) cost 80% of total value.

2.3. 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 which there 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. For example: affinity diagram, relationship diagram, tree diagram, matrix, alternatives, flash, analyze of principals components, histograms, stratifications, flux diagram and so on. What is important is to know clients and their needs, to know if all is established in preplanning period, or there a good negotiation team should exist, with the specific purpose of finding out precisely what these clients need. If one manages to satisfy them, the success is assured.

A study made in USA by Westinghouse shows that there are 6 ways to lose yours clients:

- Client dies .................................................................1%
- Client change his address ...........................................3%
- Client has a friend unsatisfied by you ..........................5%
- Client „stolen” by competition ...................................9%
- Client unsatisfied .......................................................14%
- Client’s believes that you don’t care about him ...........68% [1, 3].

Table 3

<table>
<thead>
<tr>
<th>PROCESS</th>
<th>ALTERNATIVES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensuring raw materials;</td>
<td>Manufacturing or from exterior;</td>
</tr>
<tr>
<td>Ensuring a good work environment;</td>
<td>One location or more locations;</td>
</tr>
<tr>
<td>Acquisitioning materials;</td>
<td>Stock or JIT;</td>
</tr>
<tr>
<td>Participation of team members;</td>
<td>Consultations or negotiations or imposed decisions;</td>
</tr>
<tr>
<td>Managerial leading on.</td>
<td>autocrat or participative or permissive or tyrannical or …</td>
</tr>
</tbody>
</table>

3. Evaluation and control

This rule is correct: a project’s SUCCESS = 50% PLANNING + 50% CONTROL.

The basics elements of control:
1) Standards regarding performance level;
2) A technical measuring method, instrument;
3) Comparison of the achieved performance as compared to the forecasted one;
4) Deviations estimating „plus” or „minus” compared to the estimated;
5) Report to control factor (feedback);
6) Other 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 do we have to? Corrective actions? Expected results?

Control includes people; information; materials; finances.

A) People
In figure 4, there are presented factors which influence person’s productivity.

For a good people evaluation it is necessary to periodically measure performances [5]. Evaluation means measuring efficacy, efficiency and effort (the 3 “E”), as seen in figure 5:

For offering a stable and objective feeling in the way to establish employees’ tasks it is necessary to make an achievement analysis

a) achievement package

b) duties process „at the third mistake you’re fired”

- 1st mistake – is forgiven (system or people’s weakness);
- 2nd mistake – attention (system and people were not correctly managed);
- 3rd mistake – people didn’t want to change themselves.

Any mistake has two causes:
- Bad system, malfunction procedure;
- Human fault: he can’t; he won’t.

Avoidable actions: over-control; lack of control.

B) Information

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

Informational circuit of control process is presented in figure 7 [3, 8]:

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

Sometimes the PL can fall into a “trap”, usually at the beginning of a project, when the instinct and experience says: “let’s begin earlier… don’t loose time, to out sail some days/weeks, a.s.o.

In figure 8 there is presented a strategy of PL, without carrying causes - effects relationships.

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

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

4. Conclusions

In 1992 Bank (1992) suggested 5 criteria for quality measuring:
1. Destination: what should I expect from the product;
2. Conforming to needs: does it meet the consumer expectations?
3. Reliability: does it keep its quality in the future;
4. Cost: how much should one pay for the product / service;
5. Delivery: when do I get the product?

Bank gives a new definition of quality: Quality means a complete and satisfactory fulfillment of buyer’s demands at the lowest internal cost. This means 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 TQM point of view – the new role of management 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 determine the organization’s members to focus on those, losing some skills; loss by training, perfecting only of necessities ⇒ loss of personnel elasticity;
- Increase of control level: quality approach implies 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.

References


Stupid questions get stupid answers. (Anonymous)