

TOOL FOR MANAGING PROCESSES WITHIN ORGANIZATIONS

Alexandru POTORAC¹, Marius-Daniel BĂEȘU², Costică STOLERU³

¹Universitatea „Ștefan cel Mare” Suceava, alex@fim.usv.ro

²Universitatea „Ștefan cel Mare” Suceava, marius.baesu@fim.usv.ro

³SC MYTIB SERV SRL, costicastoleru@yahoo.com

Abstract: Any modern organization is characterized by a series of processes that must be constantly monitored, kept under control and improved. Implementation of a system of integrated environmental and quality management is a complex activity that leads ultimately to streamline all processes and activities in the respective organization but which involves a considerable effort on its part. Often, the volume of work needed to implement such a system is doubled by the disadvantage to develop a complex and voluminous documentation which is, for these reasons, difficult to be quickly accessed by the senior management in order to monitor processes in real time and to make the appropriate decisions. In order to remove this disadvantage, an Excel application that enables a simple documentation which meets the requirements of ISO 9001 standards, with a minimum of paper, easy access and use, was developed..

Keywords: organization, processes, application, ISO 9001

1. General consideration

Nowadays, ISO 9001 certification has become almost synonymous with too much documentation, typical to bureaucracy, that is a chore for many organizations. Most companies never realize any actual intended benefit beyond a pretty certificate on a wall and access to a new customer or market [1]. A reason is the general misconception of ISO 9001 as a set of documentation requirements. While it is true that ISO 9001 stipulates certain documents and records, the intent and focus of the standard is not the documentation. Actually, very few documents are specifically required by ISO 9001. Below it is presented a list of the required documents and records [2]:

- required documented procedures specific to ISO 9001:
 - document control;
 - record control;
 - internal audits;
 - control of non-conforming product/service;

- corrective action;
- preventive action;
- required records specific to ISO 9001:
 - management reviews;
 - education, training, skills and experience;
 - evidence that the realization processes and resulting product fulfill requirements;
 - results of the review of requirements related to the product and actions taken;
 - design and development inputs (relating to product/service) requirements;
 - results of design and development reviews, verification and validation;
 - results of evaluations and any necessary actions needed to be taken;
 - results of calibration and verification of measuring equipment;

- internal audit results and follow-up actions;
- indication of the person(s) authorizing release of product;
- nature of the product nonconformities and any subsequent actions taken, including concessions obtained;

- results of corrective and preventive actions etc...

2. Issues concerning processes management within an organization

Today, almost all managers think that the documentation should respect this kind of pyramid [3], [4] (fig.1):

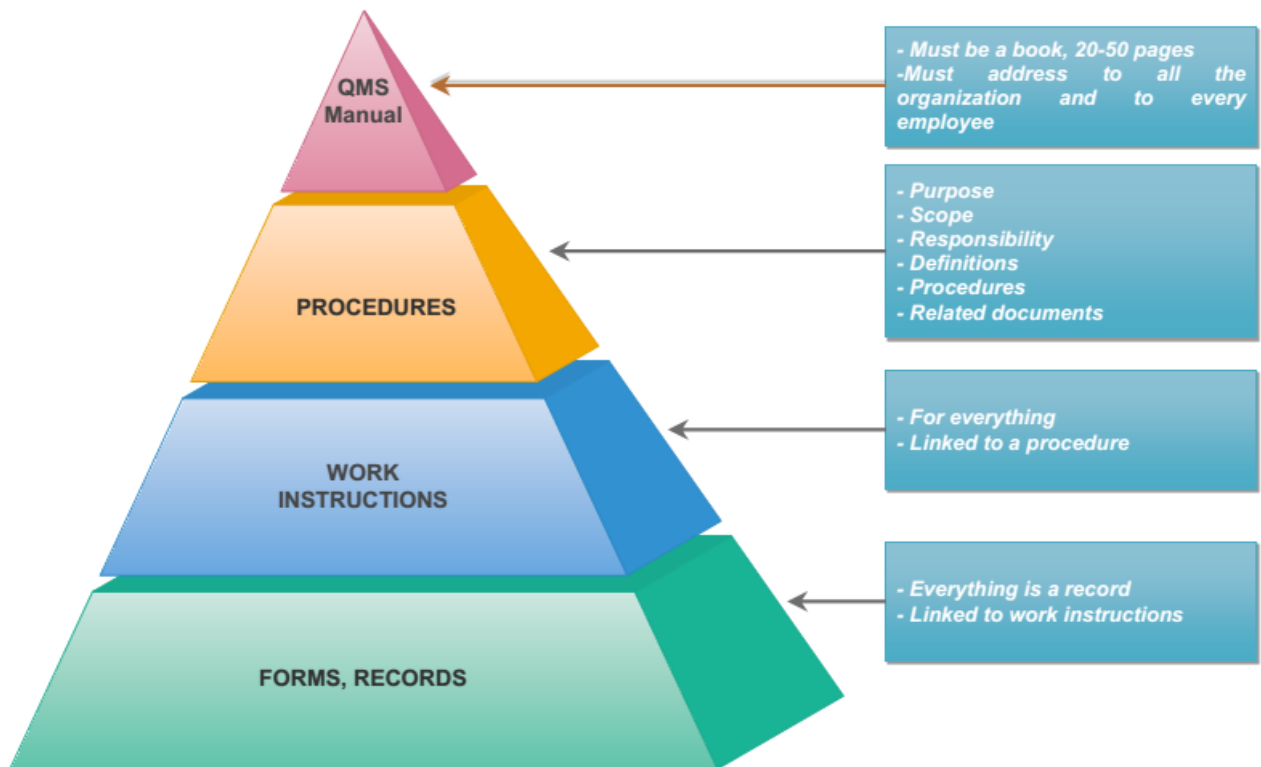


Figure 1: Pyramid of documentation

ISO 9001 does not stipulate any kind of pyramid of documentation or make any suggestion regarding the form and structure of a quality management system documentation. It simply describes the minimal elements/components that a basic quality management system should have. It is simply a

diagram, a structure for a quality management system, not a set of documentation requirements. ISO 9001 allows the freedom to organize all the documentation to suit any particular organizational needs.

The processes within organizations are described and classified in table 1.

Table 1 – Processes within an organization

Management processes	- management processes	The role of these processes is to ensure the management of the organization and to continuously improve the managerial culture through: <ul style="list-style-type: none"> - the principles of quality management; - environmental management principles;
Main processes	- processes that add value to activities	The role of these processes is to ensure the organization's performance and compliance with the quality/environment demands by working under controlled conditions. These are processes that focus on: <ul style="list-style-type: none"> - infrastructure;

		<ul style="list-style-type: none"> - key competencies; - generating value for stakeholders; - the potential for continuous improvement; - sources of competitive advantage;
Support processes	<ul style="list-style-type: none"> - support of main processes 	<p>The role of these processes is to ensure the determination and access to the necessary resources, data and information in order to:</p> <ul style="list-style-type: none"> - implement, maintain and continuously improve the management culture expressed through integrated management principles; - to increase the satisfaction of the interested parties; - to demonstrate the conformity of the performance - to comply with legal requirements; - to ensure compliance of the system with applicable requirements; - to improve continuously the effectiveness of the integrated management system



3. Excel application for processes management

In order to monitor processes in real time and to make the appropriate decisions, an Excel application that enables a simple documentation [5], [6], [7], [8] which meets the requirements of ISO 9001 standards, with a minimum of paper, easy access and use, was developed. The purpose of this instrument is to develop a simple tool, with minimal paper usage, applicable in practice, in a language specific to engineers (flow charts, etc...), developed for the customer and not for the certification company. It allows an easy way to access the management processes, an overview of the organization and the possibility to reach, „if necessary” other layers (processes, sub processes, activities, etc...).

The documentation answers to all requirements of ISO 9001 standard, including internal communication, through the graphs of the measured processes, which is generally not yet implemented in most of the organizations.

The processes within an organization are presented in the *Process Map*, that is in the

“Overview of Processes” (fig. 2). In order to view the processes in detail and to enter other levels, one should access “Overview of Processes” and click on the desired item.

Monitoring and measurement of processes outlined in the *Processes Map*, is performed through indicators established for each process. In the “Overview of Processes” (fig. 2), for each process presented in *Processes Map* should be identified the necessary tasks, sub processes etc., in correspondence with the requirements of the implemented management systems. When positioning the cursor on the desired item, one should click either on a process  (brown colored arrow), either on an activity  (yellow colored rectangle) – (fig. 3). On the labels there are nominated the necessary sub processes and activities for the implementation of the chosen process.

As an example, if we access in the main panel (fig. 2), the Management Processes (the cursor on the upper green triangle), a new window will pop up (fig. 4).

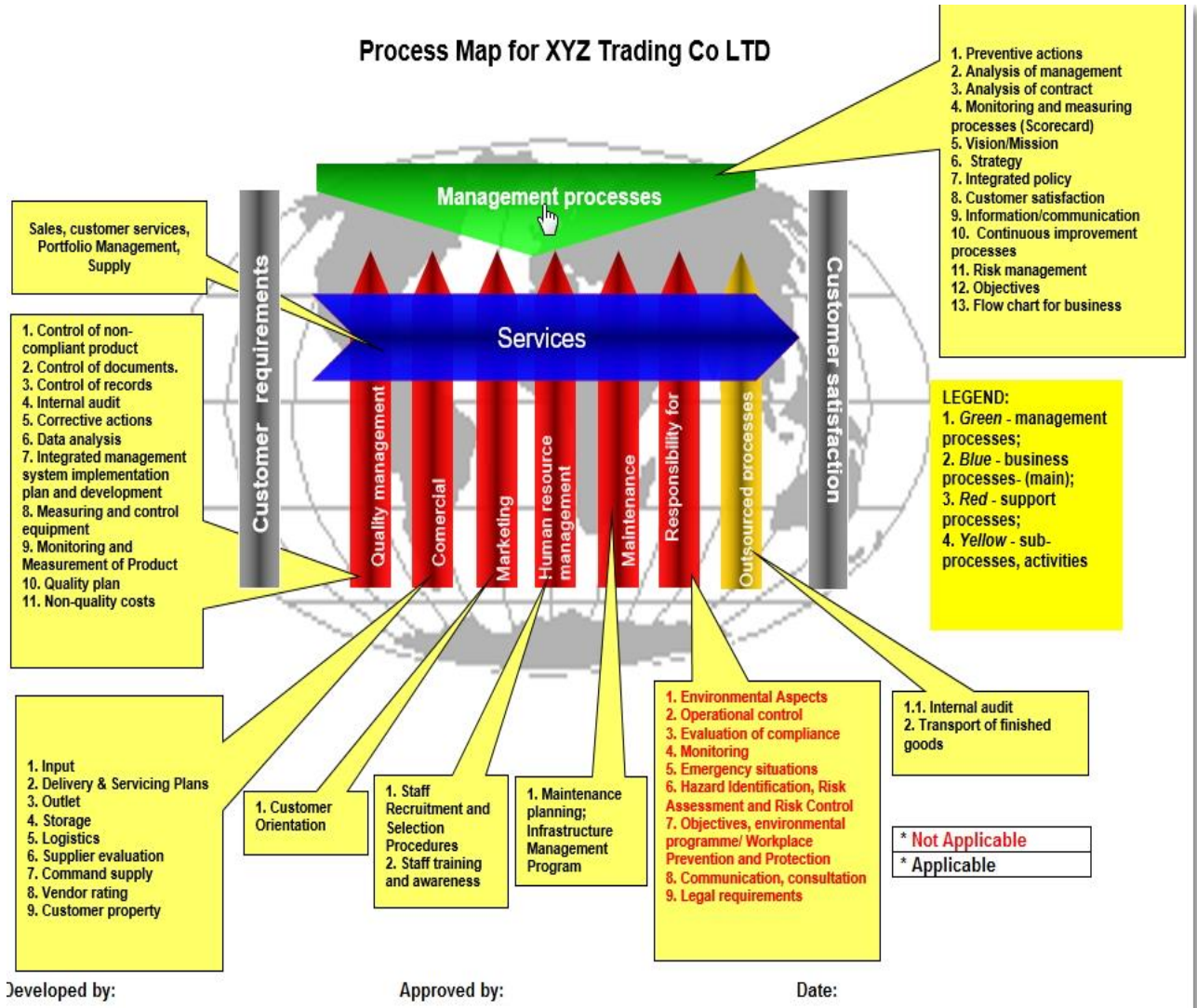


Figure 2 - Process Map

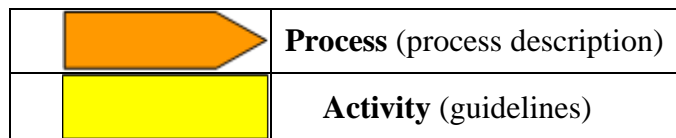


Figure 3 – Process and activity representations

Furthermore, if we access the “monitoring and measurement of processes activity” a Scorecard window will appear (fig. 5). The Scorecard is a tool used for monitoring and measurement of processes and activities. For

each performance indicator there are three possible values:

- **Green** box - the target value;
- **Yellow** box - the minimum acceptable value;
- **Red** box - unacceptable value;

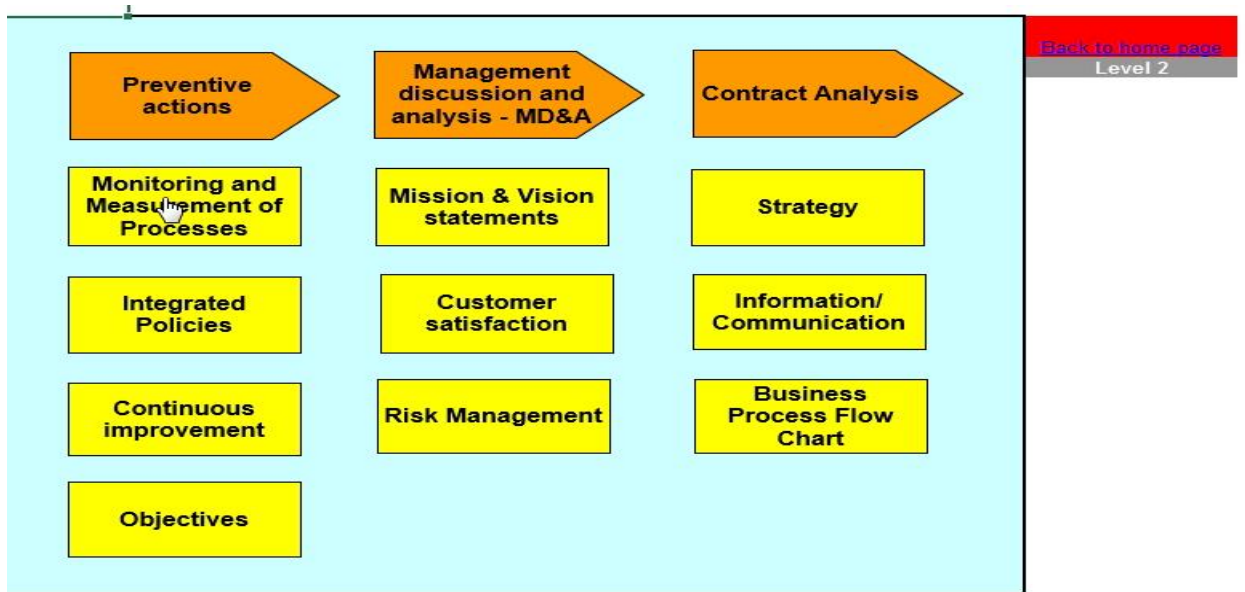


Figure 4 – Accessing processes or activities

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Process ↓	Manager	Indicator	Values Indicator			2014 Full-Year Operational Results												
			G	Y	R	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG 2014
PP Direct sales businesses			99	98	97	99.7	99.2	99.6	80	90	90	95	99	98	97	99	100	95.5
PP Sales process for distributors/individuals																		
PP Customer portfolio management																		
PP Maintaining Client Relationships																		
PP Services																		
PP Supply																		
PS Commercial		Incoterms	98	95	90	0.0	0.0	0.0	60.0	70.0	80.0	90.0	100.0	97.0	93.0	97.0	99.0	65.5
PS Marketing		Consumer Complaints	1	3	5	0	0	0	1	1	1	3	6	4	0	0	1	1.4
PS Human Resources		Fluctuations	10	20	30	0	0	0	10	0	20	0	30	10	0	10	0	8.3
PS Quality management		Non-quality costs	1.0	1.3	1.5	0.0	0.0	0.0	0.5	0.7	1.2	0.6	0.3	1.0	1.7	0.9	0.3	0.6
PS Maintenance		Non-quality costs	100	120	150	100	120	90	99	110	130	150	155	90	80	60	50	102.8
PS EH&S		Accident statistics	0	1	2	0	1	2										1.0
PM Management processes		Profit	10000	8000	5000	0	0	0	6,000	8,000	9,000	10,000	12,000	15,000	17,000	20,000	25,000	10,166.7

Legend :

V	Green	Value proposition
G	Yellow	Accepted minimum value
R	Red	Unaccepted value

GO TO :

[DEFINITIONS](#)
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Developed by : _____ Approved by: _____ Date: _____

Figure 5- Scorecard in Excel

Finally, in the Scorecard window if one clicks the graphs button , a new window

will appear, showing the evolution of chosen parameters (fig. 6)

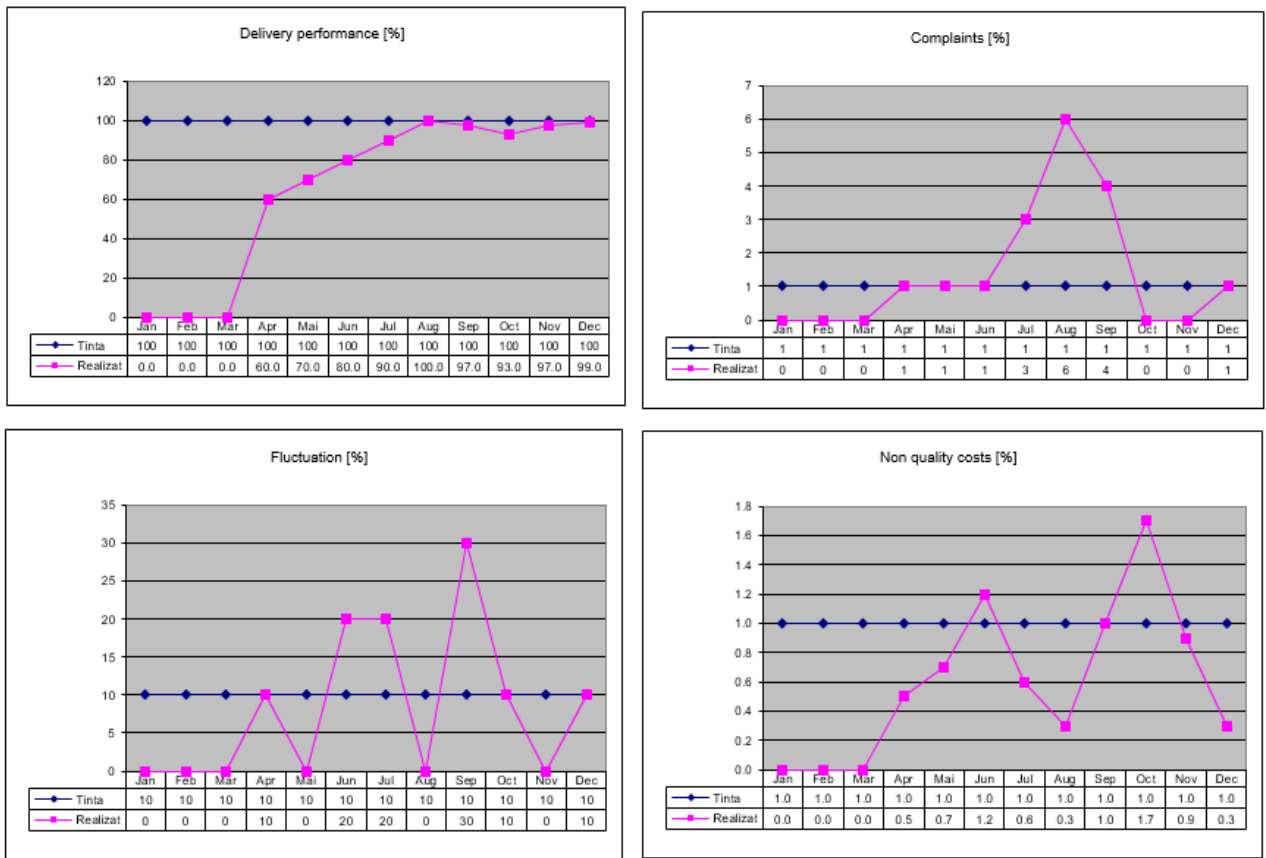


Figure 6 – Graphics showing evolution of delivery performance, complaints, fluctuation and non-quality costs

To ensure the internal communication and the effectiveness of the integrated management system, the monthly values of the indicators are provided, based on automatically generated graphs from EXCEL. These graphs are easy to interpret and understand, not only for

management and the staff involved in the integrated quality/environment management system, but also for all the employees.

The management and improvement of processes is achieved by applying PDCA methodology (fig. 7):

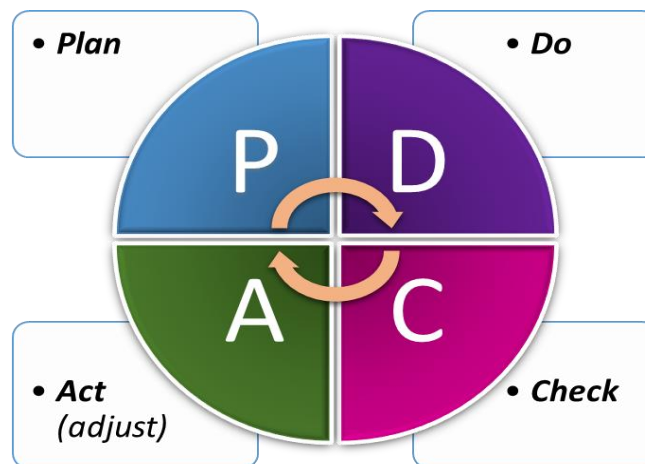


Figure 7 – PDCA cycle

4. Conclusions

The objectives of an organization, including processes management and the implementation

of a system of integrated environmental and quality management should comply with the SMART rule [9] (fig. 8):



Figure 8 – SMART rule

Ideally speaking, these objectives should be:

- Specific – target a specific area for improvement.
- Measurable – able to quantify or at least suggest an indicator of progress.
- Assignable – specify who will do it.
- Relevant – state what results can realistically be achieved, given available resources.
- Time-related – specify when the result(s) can be achieved.

Implementation of a system of integrated environmental and quality management is a complex activity that leads ultimately to streamline all processes and activities in the organization but which involves a considerable effort on its part. This is why, using the application designed and described in this paper could be extremely useful in managing processes within an organization. The advantages of this „tool” are:

- quick access of senior management to all the processes and information;
- possibility of adding/retrieving information and making decisions in real time;
- minimization of the amount of paper;
- constantly monitoring, controlling and improving of the processes;
- through instruments like „Scorecard” and through graphs based on the analyzed data, the application provides a friendly and easy to interpret feedback;

5. References

- [1]***<http://www.pinnacleeg.com/iso/>
- [2]***http://www.iso.org/iso/02_guidance_on_the_documentation_requirements_of_iso_9001_2008..pdf
- [3] Van der Tuuk Adriani, W., Sibinga, S. *The pyramid model as a structured way of quality management*, Asian Journal of Transfusion Science, pp. 6-8, Jan 2008
- [4]****Documentation of Quality Management System | Total Quality Management*, <https://totalqualitymanagement.wordpress.com/2009/02/27/documentation-of-quality-management-system/>
- [5] *** - *Tools for Developing a Quality Management Program: Proactive Tools (Process Mapping, Value Stream Mapping, Fault Tree Analysis, and Failure Mode and Effects Analysis)*, International Journal of R. O. B. P., Volume 71, Issue 1, Supplement 1, pp. S187-S190, 2008
- [6]****Management Tools & Trends 2013 – Bain & Company*, <http://www.bain.com/publications/business-insights/management-tools-and-trends.aspx>
- [7] Bass, I. - *Six Sigma Statistics with EXCEL and MINITAB*, McGraw-Hill, NY, 2007
- [8] Ciobanu, M., Băeșu, M., *Ingineria și managementul calității: lucrări practice, studii de caz, teste grilă și reglementări specifice*, Suceava, 2010
- [9]***http://en.wikipedia.org/wiki/SMART_criteria