MODEL FOR CONFORMITY ASSESSMENT OF INTEGRATED MANAGEMENT SYSTEMS

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Din analiza solicitărilor din ultima vreme pentru certificarea sistemelor de management, s-a constatat o tendință clară de integrare a diverselor standarde de management, în general ISO 9001, ISO 14001, OHSAS 18001 şi SA 8000. Întrucât în prezent nu există un standard internațional care poate fi utilizat ca referențial pentru evaluarea unui sistem de management integrat, organismele de certificare simt nevoia unui model care să permită efectuarea acestor evaluări într-un mod unitar. Mai mult, la proiectarea acestui model s-a avut în vedere ca acesta să permită o evaluare cantitativă pentru a elimina cât mai mult subiectivismul din analiza constatărilor de audit.

From the analysis of lately applications for certification of management systems it is a clear tendency to integrate various management standards, the most frequent being ISO 9001, ISO 14001, OHSAS 18001 and SA 8000. Whereas currently there isn't developed an international standard that can be used as reference for evaluating an integrated management system, the certification bodies feel the need of a model that allow conducting these evaluations in a unitary way. Furthermore, when designing this model, it was also considered that it would allow the quantitative assessment to eliminate as much subjectivity from the analysis of audit findings.

Keywords: integrated management system, audit

1. Introduction

As itis well known, conformity assessment has become, globally, one of the best businesses with an increase much higher than many others have. In these circumstances, it is easy to suppose the result: the setting up of a large number of companies desirous to benefit in any manner by this business opportunity. This obviously has a number of advantages, from the diversity of services offered on the market in this area until the correct setting prices because of supply and demand game. Unfortunately, "too commercial" aspect makes us every day to face, with a global erosion of the credibility of the certification.

A first reason arises from the fact that, due to the eagerness of immediately benefit, some certification bodies issue certificates too easy, both

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because of lack of adequate training of auditors and as a result of lack of surveillance by accrediting bodies. This problem occurs primarily because of an inherent conflict of interest existing between certification bodies and the audited organizations for certification.

Most often, organizations that are applying for certification have as a first motivation the use of the certificate as a marketing tool rather than the internal benefits of such a management system. At that rate, the relationship between certification body and audited organization is primarily commercial because the latter has paid the certification to the certification body and it is unrealistic to believe that, especially in conditions of tough competition on the certification market, the auditor can be totally objective. If the organization applying for certification considers that, the auditor is too rigorous in conformity assessment it may give up the certification services and may head for another less restrictive certification body. In a market where such things happen frequently, the certification body's problem is reduced to a simple question: to get out of the market, maintaining the strictness of the conditions in which the assessment is made or to remain on the market by abandoning it.

This can lead, and even led to a certain extent, to a misunderstanding that certificate is just a piece of paper that can be bought like any other product, without requiring much effort from applicant organization to earn this certificate. This perspective is extremely harmful for the credibility of the certification system, the worst being that the loss of credibility is felt both globally and nationally.

At the international level to eliminate as much as possible the causes determining such an approach it been attempting, are followed in order.

The first course of action was to promote a set of useful criteria for selecting certification bodies, criteria referring to the ethical behaviour of their staff.

The basic idea was to change, as much as possible, the organizational culture regarding the management systems in general and regarding the certification, particularly, focusing on the internal advantages of a management system and just after that the external advantages. Regarding these advantages, they become a reality only if the certification body is credible, and that credibility is based on several key issues as follow:

a. Impartiality of the certification body regarding the other players in the certification field meaning organization that has provided consultancy and accreditation body. It is no longer surprising when behind a certification body, there is a consulting organization. As far as impartiality is not ensured, the results of audits conducted by the certification body will not be objective and will not bring any benefit to the certificated company;

b. Duration of certification audit and duration and frequency of surveillance audits: they must be appropriate taking in account the size and complexity of the organization to be certified. Not infrequently, due to the desire to benefit, certification bodies are tempted to reduce the number of audit days compared to the number of days recommended by the applicable guidelines. This practice is not in favour of the organization to be certified, because it certainly will remain uncovered by the evaluation processes and activities, so the confidence in the audit findings decreases.

c. Competence and ethical behaviour of auditors used by the certification body for the assessments. From this point of view, we face with the inconsistency of requirements for qualification of auditors from one certification body to another. More accurately, most often, the certification bodies qualify internally their auditors, more or less, respecting the qualification requirements specified in ISO 19011 (actually in FDIS stage) [1]. In these cases, a lot of other knowledge and skills crucial to conduct an audit that actually adds value are not taken in account: the ability to conduct an audit focused on process, the existence of personal skills, understanding of advanced management concepts, not only quality management a.s.o.

In this respect, several aspects should be taken into account [2]:

- establishing at the global level of more exigent requirements for accreditation / certification bodies, including the staff used for evaluation, possibly to establish uniform criteria for certification / recognition of auditors, clearer and more comprehensive than those specified in ISO FDIS 19011
- greater control of the EA on the accreditation bodies including the analysis of links with associated bodies
- a more efficient control system of accreditation bodies on the certification bodies, possibly by sudden witnessing audits,
- developing a feed- back collection system from the final customers of the certification process, meaning the consumer, regarding the actual effectiveness of certified organizations systems and considering it in the surveillance audits.

Beside these, it would be very useful to consider a model that allows conducting the audit evaluations in a unitary way from a certification body to another. The topic of this paper is to develop such a model in order to enable, as much as possible, a quantitative assessment of compliance with the requirements of reference standards, and to better meet the requirements of standard ISO / IEC 17021 [3] and to remove as much subjectivity from the analysis of audit findings and conclusions. For this topic, it will be considered the situation of integrated management systems – quality, environmental, health and safety and social responsibility – taking in account that currently, an international standard that can

be used as reference for evaluating an integrated management system is not developed yet.

In preparing this assessment model the recommendations of ISO Guide 72:2001 [4], Guidelines for the justification and development of management systems standards, which specify a framework for the common requirements identified in the management system standards and the self assessment model included in ISO 9004 were taken into account [5].

2. General model for assessing the conformity of the integrated management system; specific indicators

2.1 Main categories of the model

The identified common requirements of management system standards can be classified in six main categories [4]:

a) policy
b) planning
c) implementation and operation
d) performance evaluation
e) improving
f) management review

Obviously, in addition to these common requirements, each standard has specific requirements that must be evaluated in the combined audit. Starting from well-known pyramid of documentation of management system, the integration of the requirements of several standards for management systems can be illustrated as shown in figure 1, where the follow abbreviation are used:

- MS1 – quality management system in conformity with ISO 9001 [6]
- MS2 – environmental management system in conformity with ISO 14001 [7]
- MS3 – occupational health and safety management system in conformity with OHSAS 18001 [8]
- MS4 – social responsibility management system in conformity with SA 8000 [9]
- IMS – integrated management system

Using the categories of requirements and integration model presented in Fig. 1, a model for assessing the integrated management system can be designed as in Fig. 2. This model contains the major requirements to be assessed in the audit combined each of these requirements are properly detailed in a system of indicators that allow quantification of the degree of compliance of the system with reference standards.

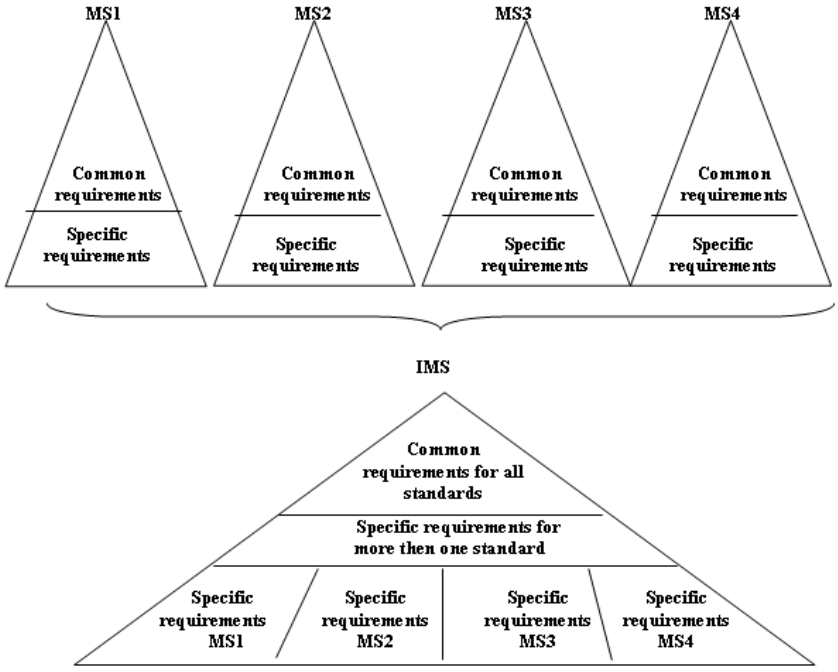

Fig. 1. Integration model of the requirements of reference standards

This model is composed of 6 main criteria and 25 sub-criteria, organized as follows:

1. Policy
    1.a - Policy and principles of integrated management system
2. Planning
    2.a – Determination of processes, interaction
    2.b - Identifying the needs, requirements, including legal requirements
    2.c. - Identify and assess impacts and risks
    2.d - Setting goals, targets, management programs
    2.e - Establishing organizational structure, roles, responsibilities, authorities
    2.f - Provision of resources
    2.g - Operational planning processes
    2.h - Contingency Planning

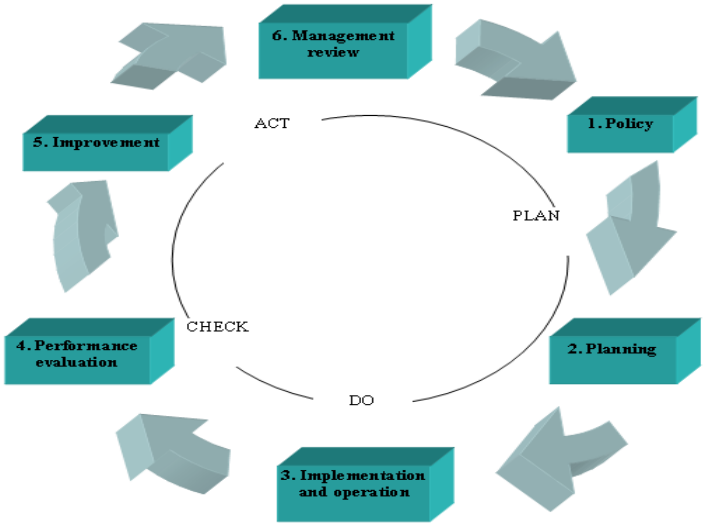

Fig. 2. Model for assessing the integrated management system

3. Implementation and operation
    - 3.a - Human Resources Management
    - 3.b - Management of other resources
    - 3.c - Documentation and documentation control, including records
    - 3.d - Internal and External communication
    - 3.e - Operation and operational control
4. Performance evaluation
    - 4.a - Monitoring and measurement
    - 4.b - Assessment of compliance
    - 4.c - Analysis and treatment of non-conformities
    - 4.d - Internal Audit of the integrated system
5. Improvement
    - 5.a - Corrective Action
    - 5.b - Preventive actions
    - 5.c - Continuous improvement
6. Management review
    - 6.a – Planning
    - 6.b – Input
    - 6.c - Data output

In practice, however, in most cases, integrated management systems are built by the organization on quality management system structure. As a result, the approach that prevails in these systems is the processes approach, natural approach, though. The other management systems requirements are added to the quality requirements, under common documents, or within specific documents.

2.2 Application of the model in practice

To obtain results as close to reality, assessment management system should follow the approach used to design the system, the auditing process and the requirement of the standard or procedure. This implies that most of the requirements specified in the model need to be evaluated in each process, the outcome of the assessment for each indicator separately being an aggregation of evaluation results on each process.

Below, in Table 6 is presented the application of the system of indicators used to assess the integrated management system – quality - environment - occupational health and safety - social responsibility for auditing the customer related process within an organization. For each of the associated indicators, the auditor will assess and decide to what extent the organization responds appropriately. The scale used for quantification, as conformity level, is as follows:

0 - requirement not applicable in this case

1 - there isn't or there are very few evidences regarding the achievement of that requirement (a major non-conformity);

2 – there are evidences, but not systematically, regarding the achievement of that requirement (minor non - conformity)

3 - there are systematic evidences on the requirement, but there are opportunities for improvement (recommendation, comment)

4 – the available evidences show achievement in great extend of the requirement (conformity)

The results of evaluation are aggregated at the sub-criteria level obtaining the conformity level for each sub-criterion and like a total; obviously these values are determined at the process level and system level, too (figure no. 3).

Tabel 1

Customer related process						
Indicator	ISO 9001	ISO 14001	OHSAS 18001	SA 8000	Con-formi-ty level	Aggre-gation index
Identification of interaction between customer related process and other processes in the organization	**4.1**				**4**	**2a**
Knowledge and understanding of organization policy by the staff of the customer related process	**5.3**	**4.2**	**4.2**	**9.1**	**3**	**1a**
Determination of requirements including legal requirements regarding the process	**7.2.1**	**4.3.1 4.3.2**	**4.3.1 4.3.2**	**9.8 9.10**	**3**	**2b**
Identification and assessment of all environmental aspects associated		**4.3.1**			**2**	**2c**

Customer related process						
Indicator	ISO 9001	ISO 14001	OHSAS 18001	SA 8000	Con-formi-ty level	Aggre-gation index
with the customer related process						
Identification of all hazards and risk assessment for all working places in the customer related process			**4.3.1**		**3**	**2c**
Defining the objectives and targets at the process level	**5.4.1**	**4.3.3**	**4.3.3**		**4**	**2d**
Defining and communicating tasks, responsibilities and authorities for integrated management system within the process	**5.5.1**	**4.4.1**	**4.4.1**	**9.5**	**3**	**2e**
Providing necessary resources to operate the process	**4.1**	**4.4.1**	**4.4.1**		**2**	**2f**
Planning of the process	**4.1 7.1**	**4.4.6**	**4.4.6**	**9.6**	**4**	**2g**
Availability of working documents at point of use	**4.2.3**	**4.4.5.**	**4.4.5**		**4**	**3c**
Properly approval of documents in use	**4.2.3**	**4.4.5.**	**4.4.5**		**4**	**3c**
Properly control of documents in use	**4.2.3**	**4.4.5.**	**4.4.5**		**4**	**3c**
Adequate communication	**5.5.3**	**4.4.3**	**4.4.3**	**9.13 9.14**	**2**	**3d**
Determination of requirements regarding the product, including customer requirements, requirements related to product's use, legal requirements, other requirements	**7.2.1**	**4.3.1 4.3.2 4.4.6**	**4.3.1 4.3.2 4.4.6**		**3**	**3e**
Review requirements before acceptance orders from customers	**7.2.2**	**4.3.1 4.4.6**	**4.3.1 4.4.6**		**3**	**3e**
Control changes in product requirements	**7.2.2**	**4.3.1 4.4.6**	**4.3.1 4.4.6**		**4**	**3e**
Development of process to communicate with customers	**7.2.3**	**4.4.3**	**4.4.3**	**9.13 9.14**	**2**	**2a**
Implementation of customer communications process regarding product information, enquires, contracts, amendments, customer feedback	**7.2.3**	**4.4.3**	**4.4.3**	**9.13 9.14**	**2**	**3e**
Monitoring information related to customer perception about the extent to which the organization has met customer requirements	**8.2.1**			**9.13 9.14**	**2**	**4a**
Adequate training of personnel engaged in the process	**6.2.2**	**4.2.2**	**4.2.2**	**9.5**	**4**	**3a**
Awareness of staff involved in the	**6.2.2**	**4.4.2**	**4.4.2**		**4**	**3a**

Customer related process						
Indicator	ISO 9001	ISO 14001	OHSAS 18001	SA 8000	Con-formi-ty level	Aggre-gation index
process on their role in fulfilling the specified requirements						
Young employees not working in risk areas of the process				**1**	**4**	**3a**
Organization not use of forced or compulsory labor within the process				**2**	**4**	**3a**
Employees involved in the process have access to clean toilet, access to potable water, and, sanitary facilities for food storage				**3**	**3**	**3b**
Employees involved in the process have the freedom of association and right to collective bargaining				**4**	**4**	**3a**
Employees involved in the process are not discriminated				**5**	**4**	**3a**
Employees involved in the process are treated with respect and dignity				**6**	**4**	**3a**
Compliance with the agreed work program				**7**	**3**	**3a**
Fair remuneration				**8**	**4**	**3a**
Infrastructure	**6.3**	**4.4.1**	**4.4.1**		**4**	**3b**
Keeping records of the process	**7.4.1**	**4.4.6**	**4.4.6**	**9.7 9.10**	**4**	**3c**
Identification of the records	**4.2.4**	**4.5.4**	**4.5.4**		**4**	**3c**
Records are legible and retrievable	**4.2.4**	**4.5.4**	**4.5.4**		**4**	**3c**
Control for storage, protection, retention time and disposition of records	**4.2.4**	**4.5.4**	**4.5.4**	**9.16**	**4**	**3c**
Appropriate methods of measurement and monitoring to control the process	**8.2.3**	**4.5.1; 4.5.2**	**4.5.1; 4.5.2**	**9.5 9.6**	**3**	**4a**
Compliance with the requirements	**8.2.4**	**4.4.6**	**4.4.6**	**9.5 9.6**	**4**	**4b**
The nonconformities are properly managed	**8.3**	**4.5.3**	**4.5.3**	**9.11, 9.12**	**3**	**4c**
Adequate response to emergency situations and prevented or reduced the consequences regarding environmental or personnel's health and safety		**4.4.7**	**4.4.7**		**4**	**2h**
Analysis of outcomes of the process taking into account all aspects - quality, environment, health and safety, social responsibility	**8.4**	**4.5.1**	**4.5.1**	**9.5**	**3**	**4e**

Customer related process						
Indicator	ISO 9001	ISO 14001	OHSAS 18001	SA 8000	Con-formi-ty level	Aggre-gation index
Corrective actions	**8.5.2**	**4.5.3**	**4.5.3**	**9.12**	**4**	**5a**
Preventive actions	**8.5.3**	**4.5.3**	**4.5.3**	**9.12**	**4**	**5b**
Improvement actions	**8.5.1**	**4.5.3**	**4.5.3**	**9.12**	**4**	**5c**

To determine the conformity levels an Excel workbook has been developed which allows quick calculation and plotting graphs necessary to interpret the results, for each criterion, or each process and for the whole integrated management system - quality - environmental - occupational health and safety - social responsibility (see Fig. 4).

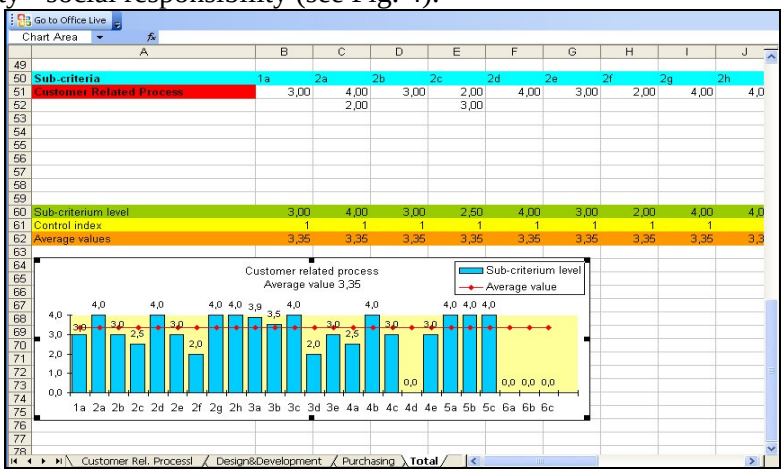

Fig. 3. Results of evaluation for customer related process

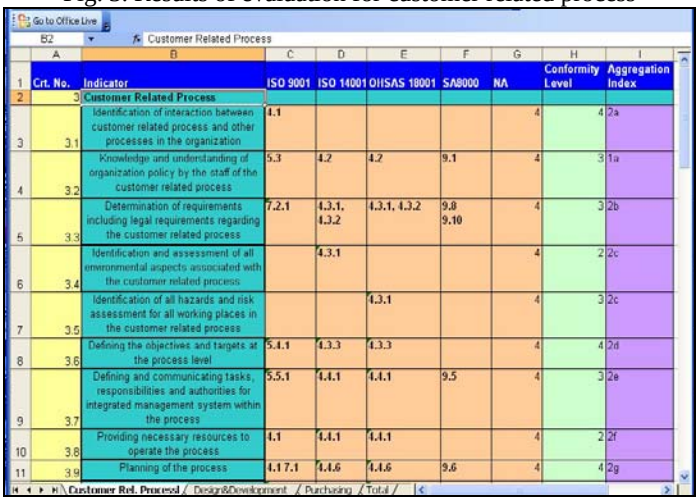

Fig. 4. Samples of Excel Workbook used for calculation

The results can be used to show the improvements tendency at the criteria, processes or system level (see Figs. 5 and 6).

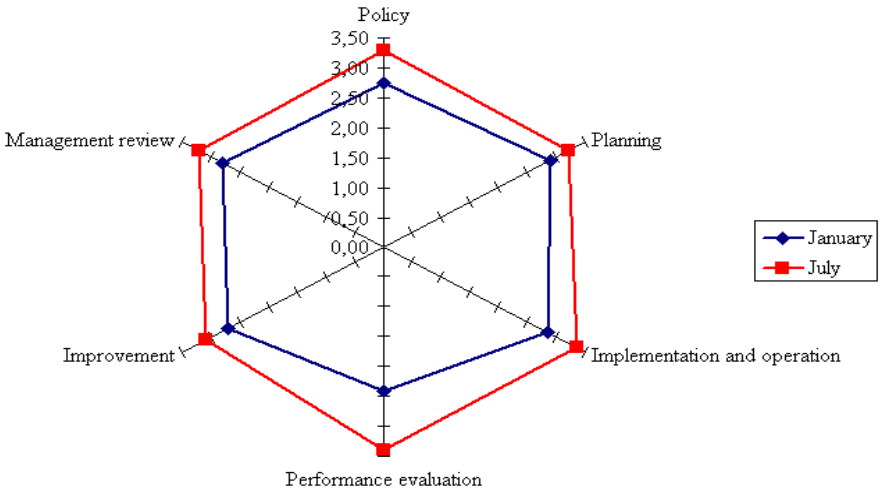

Fig. 5. Improvement tendency at the criteria level

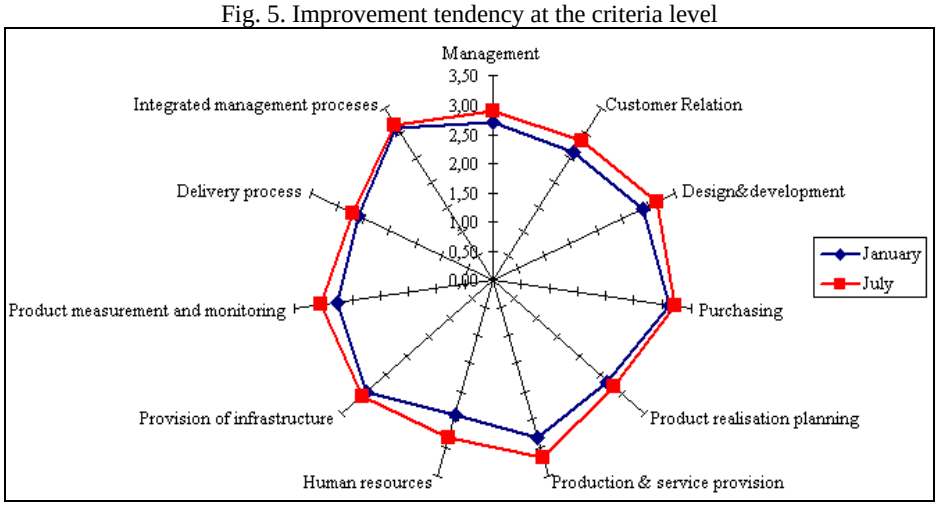

Fig. 6. Improvement tendency at the processes level

3. Conclusions

The developed model allows assessing in a measurable way, the integrated management system: quality – environmental – occupational health and safety – social responsibility. The model was already applied under real conditions in some companies; the results will be analyzed in order to extend the

use of the model inside the certification body, to assess all organizations applying for certification of the integrated management system.

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