

# ESTABLISHING AND APPLYING AN INTEGRATED QUALITY MANAGEMENT SYSTEM

Nebojša, ĐOKIĆ<sup>1</sup> and Slaviša, TRAJKOVIĆ<sup>2</sup>  
The Faculty of Economy Priština - K. Mitrovica, Serbia

**Abstract:** The contemporary environment has been characterized by rapid and radical changes, which significantly influence the strategy of enterprise dealings, thus a permanent searching for ways of satisfying the increasing sophisticated demand is necessary in order to have efficient and effective dealings. In this paper, the theme of quality management will be included through consideration of introducing the quality standard for dealings as a measure for more certain participation in the market.

**Key words:** Management, quality system, standards, managing, project.

## 1. INTRODUCTION

Since the appearance of the standard ISO 9000:1987 up to now there has been a common practice to build management systems only according to those standards and with relying on a simple recipe – “prescribe what you are doing and show that you are clinging to what you have prescribed”. As a result, there appeared a bundle of papers, which rarely had a use value, but at least were very expensive. However, concerning the process of entering the European Union and the appearance of series of laws and regulations, the things began to tighten up even in our country and there emerges a need for an enterprise – if it plans to survive – to satisfy a series of specific laws and to apply a few rather complicated management systems. Establishing an integrated management system, that corresponds with the needs of the enterprise, with simultaneously satisfying the demands of other interested parties.

Engaging in that craft of ours, for almost five years (since the appearance of the series of ISO 9000:2000) we have been discoursing on the applying of “management systems”, though it could freely be said that the discourse has been lasting for almost twenty-two years – since 1987, that is, since the first edition of mentioned standards. Have we, for all that time, learned what the “management (of quality) is and how “management system (of quality)” should function?

A business system whose aim is to realize profit, survive and provide development in the domestic and world's market must take quality as an imperative. Quality system is a process which characterizes the end of the last and beginning of this century bringing a new relationship towards buyers, environment, and, above all, in the working process in organizations, clearly explaining by what successful dealings are and by what they will be determined in the future. Quality is by far the most important condition for success and long- lasting of

every market's subject, and thus it cannot have an alternative. Series of standard ISO 9000:2000, which has officially appeared on December 15, 2000, and in May of 2001 there appeared an official version of this standard series in Serbian and it includes the following three standards: ISO 9000:2000, quality management system-elements and dictionary, it includes the dictionary and a concept on which this standard series have been based. [6, 7] It is of a descriptive character and contains 8 principles of quality management. Those principles are: ISO 9001:2000, quality management systems-requirements, the standard according to which they will be checked and certificated and ISO 9004:2000, quality management systems-instructions for improving performances which is not made for certificating and negotiating but it is, as an instruction, aiming at constant improvement in organization, and also, self-evaluating program. [9] For achieving the production of a world's class, the most efficient solutions are offered by a concept of total quality management as a system's and systematic approach to a constant advancement and improvement of products and services. It originated from Japan as a consequence of applying Deming's 14 principles: create a consistency of goals and improvements, adopt a new philosophy, reduce the influence of inspections, stop with the buying based on price as a base for deciding, constant advancements, provide “leadership”, work with no fear/danger, pull down the barriers between sectors, eliminate slogans, inscriptions and goals of the workers, eliminate work standards (job quotas, eliminate managing according to quota goals), pull down the barriers between workers (pull down the barriers between “blue” and “white” coats), establish the obligatory training programs and self-evaluating for management, include everyone to work on transformation processes. For TQM we can say that it is a managerial concept according to which an

enterprise performs a constant improvement of its functioning and thus influences the improvement of the product, taking care about the needs and expectations of the buyers. [11]

A significant number of programs for quality began with a series of unplanned and uncoordinated activities and not by formulating a philosophy. Very frequently, even the most successful organizations undertake certain activities and then, later on, they approach the analyses.

Real managers, those who know both what management is and how it is to be a manager, do not need a consultant for management systems. According to one successful definition, manager is the one who manages to achieve a determined goal using the work of other people. From this we can see that the achieving of a goal is an essential characteristic of a manager, and also we can see that the term „director“ is not a good substitution for the term „manager“ – the director is, before all, the one who gives orders. And whether the goal is achieved by that, that is another question. Furthermore, the enormous majority of consultants, evaluators and representatives of quality leadership, have no managerial experience and real managers know that. A situation like this, if it lasts, will lead to gradual disappearance of professionals in the field of quality.

## **2. INTEGRATED QUALITY MANAGEMENT SYSTEMS**

Still, everything is not so bad. Public concern for healthy environment, safety at work, healthy food, and safe industrial products has been growing recently. And although that concern has not yet reached the level of not throwing bags with garbage through the windows of a flat or car, cleaning after our dog which we took out for a walk and not smoking in the elevator, still, the situation is such that there has been more and more talking about applying laws and standards in mentioned areas. In addition, the state interest in arranging those fields and supporting the application of internationally accepted standards ISO 14000 and HACCP guidelines is growing.

Thus, the firms encounter themselves with new problems – how to change all those regulations and standards and where to find the money when the application of only one standard –ISO 9001 – cost so much (if there was any applying).

When the external pressure grows, it is logical to make a pause so that a firm can evaluate from which places does the pressure come, what should be done to reduce the pressure, the eventual negative consequences, and how much it all costs. However, the consultants and evaluators have been, as usually,

faster than the economy – the same as, for the last few years, certification has been propagated according to the standard ISO 9001, now the certification is being propagated according to ISO 14001, OHSAS 18001 etc. [4]

Since the amount of standards and the price of their application have exceeded firms' possibilities, the integrated management systems came onto the scene. By that, we usually imply a system in which the requirements of the three specifications: ISO 9001, ISO 14001 and OHSAS 18001 are simultaneously satisfied. [2] Somebody has finally remembered the alphabetical truth – the number of standards can grow limitlessly, but the firm still has only one director and only one management system in which all those standards should fit. The idea is nice, but the problem is not small – how to make such a system and make it useful for something? Not to mention that only a small number of organizations for certification are qualified for evaluating according to more standards simultaneously. Is the reason for this in the fact that every evaluation is separately paid?

However, the most important thing is to determine the meaning of the term “integrated management system”. What is being integrated – which components are being connected and what is gained by that connecting.

The answer to this question is simple – there comes to the integration of requirements which are set before an organization and which come, not from standards, but before all, from life, from the need of a firm to survive in the market and to continue its development to the advantage of all parties of interest. [5] If that is the approach, then the mentioned three standards are merely a small subset of all that a firm needs. A more complete set of requirements is shown on the picture 3.

Demands integrated in that way become an input specification for the regulation of business system, which can pass any evaluation and any inspection after that.

### **2.1. Building process of integrated management systems**

The first step in establishing the integrated systems is duly determined hierarchy of requirements and expectations of the parties of interest for whose needs the system is being built. Holding to the principle of risk minimization, we should start from the state as a party of interest, which can cause the greatest damage to the firm and after that, we should include the others. [12]

In that way, we come to the following hierarchy of requirements:

- Requirements of laws and other regulations
- Requirements of the users
- The needs of an enterprise
- Requirements and needs of a community (environment in which an enterprise is working)
- Requirements of the standard for management systems (if we need a certificate)

The second step is choosing one of the following strategies for the realization of the project:

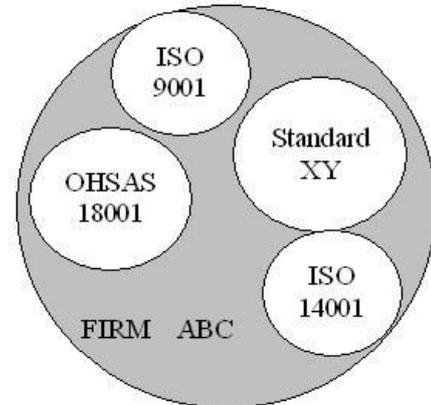
- apply every standard independently,
- supply the existing system, built according to the standard ISO 9001, in a way in which it will satisfy the requirements of other standards of interest, [8]
- build a unique, complete management system which satisfies all of the above mentioned groups of requirements at the same time.

The first way is irrational and expensive, but certainly possible. The second way is much more rational, especially because the basic standards for management systems are now well adjusted and there are wide areas of complete matching (document management, for example). However, this approach will be possible to apply if and only if the firm has fully applied the process approach and provided for the performing of processes within the boundaries of acceptability. The firms, which have made “the system” primarily for the purpose of certification, will hardly have anything to supply. The third way seems the only rational – an enterprise has one business system and one director, and thus it should have one management system. It is amazing how much time it took us to see that.

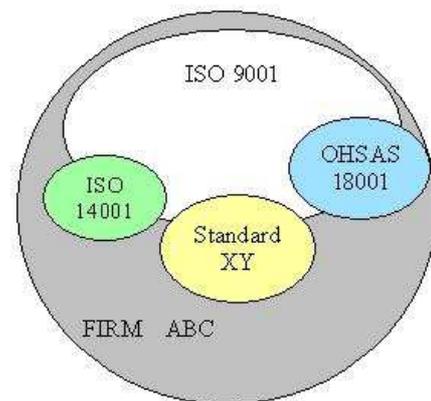
The pictures from number 1 to 3 show these three strategies.

The third step is choosing the right work method for analyzing and documenting the process, in which there have to be included (in this order):

- Profession (and science)
- Technical standards and regulations
- Good manufacturing practice (rules of the profession)
- Specific business logic (craft).



**Figure 1.** – Independent applying of management systems standard



**Figure 2.** – Upgrading of an existing system

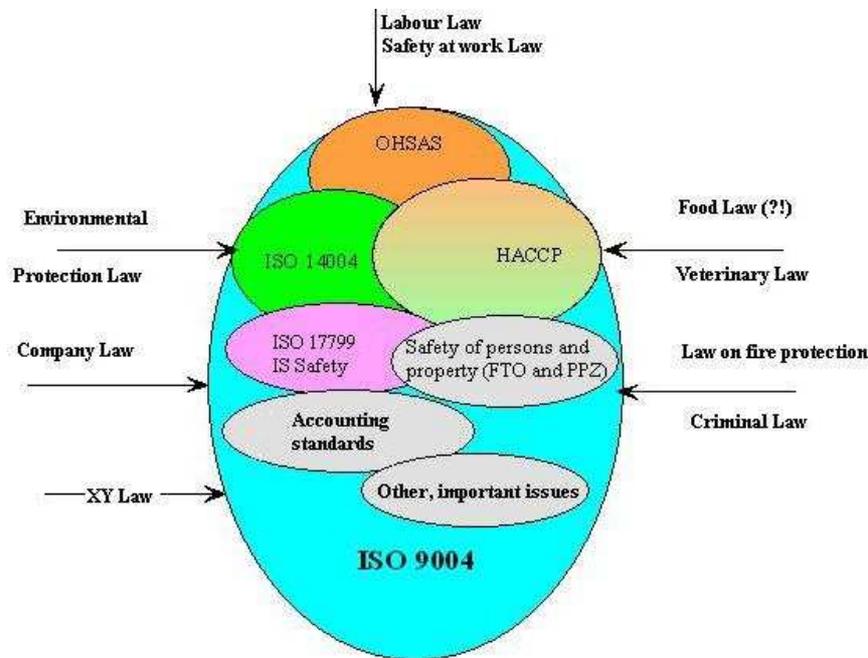


Figure 3. – Integrated management system

How should we approach the building of a system like this? Firstly, we should identify work fields (components of the project), and then the order of activities also. [10]

Work fields are shown in the picture 4, and the order of activities in the chart in the picture 5.

Providing preconditions is extremely important, but –unfortunately – a little attention has been paid to this issue and, because of that, many projects either fail or do not give the right results. The only methodically correct approach would be for the firm to gather the experts in the field in which it is interested, and to give them an assignment to scan the situation and evaluate what preconditions should be satisfied before approaching the project and what can be done during project realization. Based on

that, it is possible to set priorities – whether to spend money on consultants first or on calibration of measuring equipment. This scanning of a situation has to be paid, of course. Unfortunately, the most frequent case is that consultants place an offer based on the firm's requirements and, at the same time, do not have even the slightest idea of whether the preconditions have been satisfied. For example, it cannot be spoken about any management system based on internationally accepted standards if the firm is changing its leadership every now and then, if all the crucial places are held by persons of inappropriate qualifications, cousins for example, or if no one in the firm, except for the General Manager, can neither punish nor reward someone. [1]

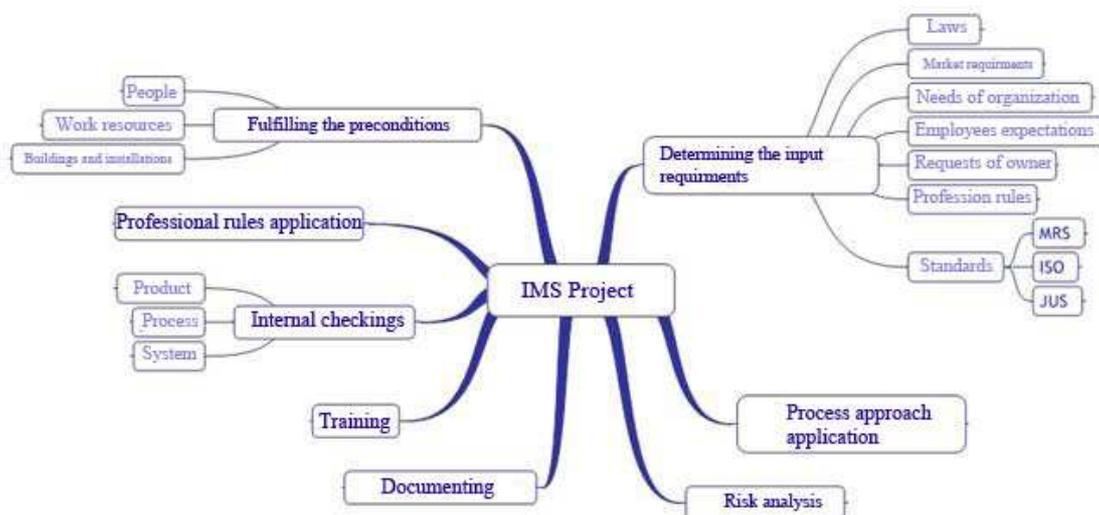


Figure 4. – Fields of the project applying

The infrastructure is a special problem whose dimensions are best shown in the firms that are supposed to apply HACCP system, although the situation is not better in the other places – the economy, which has been destroyed for so many years, is hardly providing the money for fixing the roof and replacing the dilapidated machines.

The final step in the project is certification. It is a public secret that many certificates have been assigned “for a song”, that a firm certificated in that way would not satisfy any objective criteria, that some organizations for certification provide both the services of consulting and evaluation. However, we need to hope that the applying of integrated systems will establish an order in this field, because the state inspection organs will do the supervision of some aspects. [3] For HACCP it is veterinary inspection and phytosanitary inspection, and for the environmental protection and safety at work, there are the inspections of responsible ministry. None of them has an obligation to accept HACCP or ISO 14001 certificates and it will not do it, either. That is why it is important for the firms to apply the integrated system in the right way, to avoid any comments from both the organization for certification and the inspection organs. Otherwise, a certificated firm is in danger of being punished for violation of regulations – a firm does not need a greater disgrace than that.

### 3. CONCLUSIONS

The application of these systems is not simple, because all the interested sides are faced with the additional high requirements. For example, it is required from both consultants and organizations for certification to understand well the aspects of contemporary business, legal norms, technical standards and many other things. Since one man cannot have a few different professions, it appears that the time of “lonely riders” is gradually passing. This especially stands for a slightly bigger enterprises where the complexity of processes and their interaction is far beyond the possibilities of one consultant or inexperienced evaluator. Changed owners’ structure in the firms and the role of the state also, give positive effects.

Monitoring the characteristics of quality process implies the monitoring of its effectiveness and efficiency, based on the results of the process. The effectiveness of a process represents its capability to achieve wanted results. The only real indicator of the effectiveness of a process is users’ opinion on the extent to which its requirements have been fulfilled.

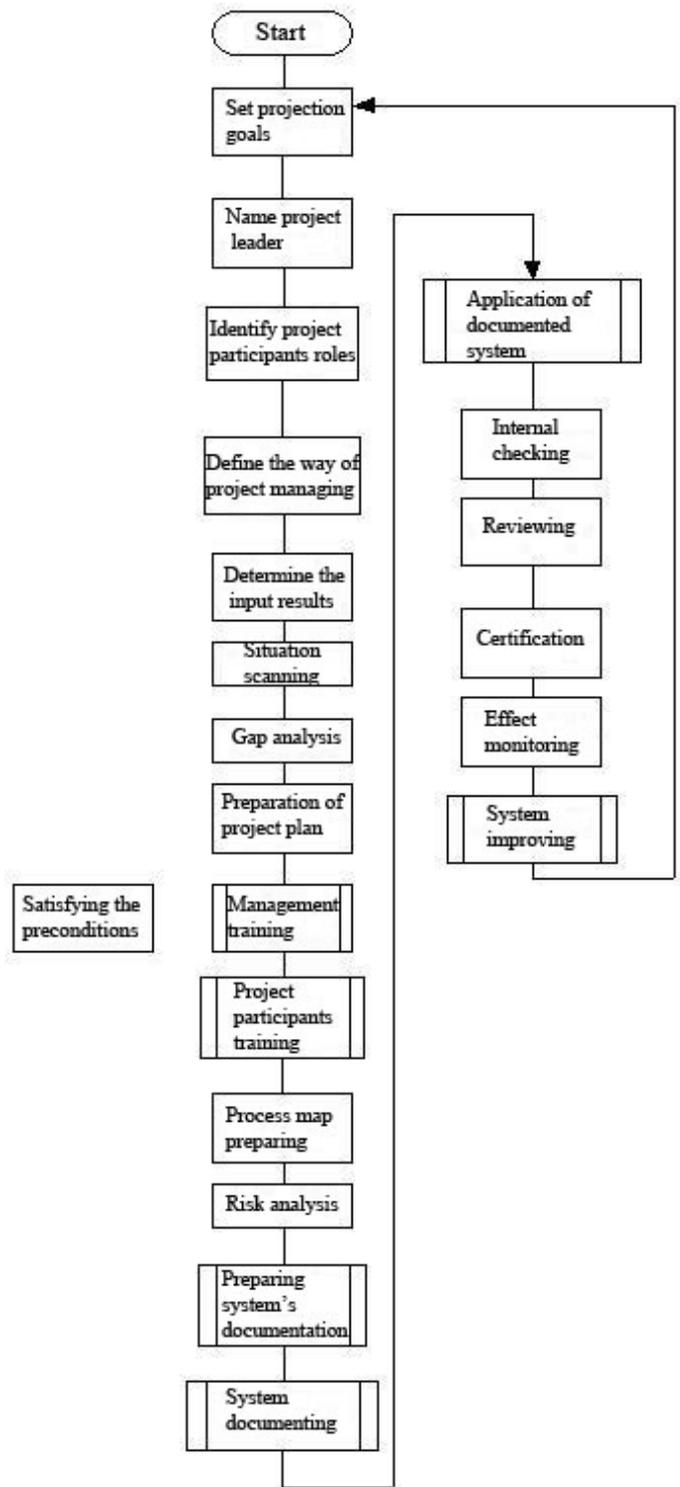


Figure 5. – Project flow diagram

The user is the one who defines the requirements and his opinion is the only indicator of whether the process has achieved wanted goals. The opinion of external users on the extent to which their requirements have been fulfilled represents a synthetical indicator of effectiveness of the whole business system, as a set of processes. The effectiveness of every process, including its work, may be determined on the basis of the internal users’ opinion on the extent to which their requirements have been fulfilled. The processes’ efficiency

represents a ratio of the achieved results to unused resources for achieving those results.

The fields for improving the performances of process's quality are identified by monitoring its defined characteristics. The constant improvement of process's quality „step by step“ is performed by undertaking corrective and preventive measures.

We should hope that in this way, after a lot of wandering, the things will gradually come to normal and that the standards for management systems will begin to be used for the right purposes – gaining profit and strengthening the capacities of the firms for surviving in the conditions of severe market competition.

## REFERENCES

1. Benita M. Beamon, Tonja M. Ware: “A Process Quality Model for the Analysis, Improvement, and Control of Supply Chain Systems”, *Logistics Information Management* (1998), Vol. 11, No. 2, pp. 105-113.
2. Cianfrani, C.A., West, J.E., Tsiakals, J.J.: *ISO 9001:2008 Explained*. Third Edition. ASQ Quality Press, 2009. – 325 pp. ISBN 978-0873897501.
3. “EFQM, Customer satisfaction” – Quality Working Group, Section Two, March – October 1994.
4. Hoyle, D.: *ISO 9000 Quality Systems Handbook* - updated for the ISO 9001:2008 standard, Sixth Edition: Using the standards as a framework for business improvement. Butterworth-Heinemann, 2009. – 728 pp. ISBN 978-1856176842.
5. Hoyle, D.: *QMS Conversion: A Process Approach*. 2nd Edition. Butterworth-Heinemann, 2002. – 192 pp. ISBN 978-0750675987.
6. *ISO 9000:2000, Quality management systems -- Fundamentals and vocabulary*.
7. *ISO 9000:2005, Quality management systems -- Fundamentals and vocabulary*.
8. *ISO 9001:2008, Quality management systems -- Requirements*
9. Mark Kaganov: “ISO 9001:2000 - A Process Interaction Matrix - A Case Study”
10. M.M. Radović, S.Z. Karapandžić: *Inženjering procesa*, Beograd, 2005.
11. ST. CLAIR, G.: “Total Quality Management in Information Services”, London, Bowker-Saur, 1997.
12. A. De Toni, S. Tonchia: “Lean organization, management by process and performance measurement”.

