

Dragan Rajković¹⁾

Mirjana Aleksić¹⁾

Rade Miličević²⁾

Saša Čudić³⁾

*Zastava automobili
(Car factory), Serbia¹⁾
RJ PTT Kragujevac, Serbia²⁾
Samax, Banja Luka, BiH³⁾*

IMS in SMES - Reasons, Advantages and Barriers on Implementation

Abstract: *Appearance of a number of management systems with various and sometimes divergent demands, demands for revise of optimal strategy on implementation of these standards in small and medium-sized enterprises (SMEs) and the attempt on their integration into integrated management system are suggested even more. Firstly question on choice and reasons for implementation of standards is raised. Management and employees expect benefits on the implementation and they pass and minimize the implementation barriers.*

Basic concept on integrated management system (IMS) into SMEs and analyse on reasons, advantages and barriers at IMS implementation are presented in this paper.

Keywords: *Quality, Environment, Safety, IMS, SMES*

1. INTRODUCTION

In previous period theory and practice of management have been rapidly changed, supplemented and sometimes excluded. The result is appearance of a great number of management concepts which acronyms cannot be recognized even by experts of this field (for example TPM, DDM, MBP, MBO, HRM). Development of movements on quality and environment in the 90's caused appearance of the management quality system (QMS - ISO 9000:2000), environmental management system (ISO 14000), management system for health and safety at work (ISO 18000), risk management system (ISO 17000) and other being under preparation.

As much as any standard attempts to explain that these standards are applicable equally to any organizations regardless their activities, size and structure, anybody, being run upon IMS, is cleared that there are no standard elements that may neither easily or effective be applied to activity and size of the organization. Such is also confirmed by numerous publications of ISO organizations

and other international quality organizations for application as of QMS and SMEs as of standards in various activities to be helpful to these organizations to pass problems occurring with standards applied and to reach internal and external benefits.

This paper analyzes application of IMS into SMEs with a view to our enterprises.

2. SME – DEFINITION AND SPECIFIC FEATURES

Micro, small and medium-sized enterprises (SMEs) are socially and economically important, since they represent 99 % of all enterprises in the EU and provide around 65 million jobs and contribute to entrepreneurship and innovation. However, they face particular difficulties which the EU and national legislation try to redress by granting various advantages to SMEs. A legally secure and user-friendly definition is necessary in order to avoid distortions in the Single Market. The revision ensures that enterprises which are part of a larger grouping and could

therefore benefit from a stronger economic backing than genuine SMEs, do not benefit from SME support schemes. The increase of the financial ceilings is designed to take into

account subsequent price and productivity increases since 1996, however the headcount ceilings remain fixed (Table 1).

Enterprise category	Headcount	Turnover	or	Balance sheet total
medium-sized	< 250	≤ € 50 million		≤ € 43 million
small	< 50	≤ € 10 million		≤ € 10 million
micro	< 10	≤ € 2 million		≤ € 2 million

Table 1 - Type of SMEs (1)

With relation to large companies, the SMEs have specific features that involve advantages and limitations. They are as follows:

- better control and supervision of processes,
- sentiment on enterprise is faster opened out,
- easier adoption to changes,
- shorter communication lines, everybody communicates, better information of employees,
- more activities/processes for one employee,
- many business activities are subcontracted (accounting, stocking, transport, legal affairs etc),
- higher fluctuation of employees,
- limited financial resources,
- limited human resources, specially noticeable when needed one employee or a team for develop of IMS as per standard requirements,
- there are not "too many" written work orders and the records are filed when needed or on request only etc.

- the same processes in organization and environment,
- the same methods and techniques, theories and practice of management,
- similar concept of management in processes,
- similar resource management,
- identical concepts for measurement, analyses and improvement,
- the same responsibility of the leadership and
- the same vision, mission and business policy of organization.

Addition to common elements of IMS, there are also elements that are specific to any of partial management systems (sample – figure 1, for basic IMS).

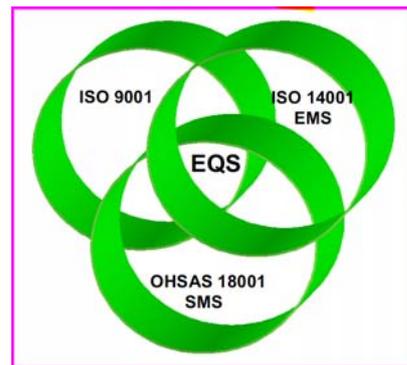


Figure 1 - Basic IMS

3. INTEGRATED MANAGEMENT SYSTEM

In the organization theory there is a basic rule:

1. Firstly the decomposition of various systems is done,
2. Integration key elements are single out and
3. Integration of decomposed systems is done.

What is common i.e. what are the key integration elements for the management systems – QMS, EMS, OHSAS, HACCP etc? Firstly, they are as follows:

- the same stakeholders, namely interest groups (employees, management, business partners, inhabitants, state, shareholders),

The following question is propounded: which of the previous integration systems should be “the core” of integration? The response depends on the following: already implemented management system in the organization, activity field, i.e. type of documented business processes, dominant demand of stakeholders.

However, since the QMS according to ISO 9000 is documented in its application and the used process approach demonstrates a good base for integration, it is proposed that QMS

becomes “the core of integration” in most cases. Therefore other solutions of “the core of integration”, due to specific business processes and demands of stakeholders, should be considered.

QMS has been accepted in most countries as their national quality system standard. There is no any “special” standard for SMEs, but many researches show that a large and growing number of small and medium-sized enterprises have already accepted the ISO 9000 standards.

In theory and practice there are some integration models. Mr. Seghezzi [7] indicates the models, being based on cross-processes, that include TQM models and process models (as in ISO 9000:2000), form a good integration base since the approaches, such as ISO 14001, ignore the scope and culture. Having followed this concept Mr. Wikinson and Mr. Dale developed the integrated organizational

management system model for quality, environment, health and safety that include fields such as leadership and culture. This model is shown in the figure no. 2.

As shown, resources of QMS, EMS and OHSAS, processes and procedures act interactively through structure and culture to perform the activities on planning, control, implementation, measurement, improvement and revision, transform input into output. Output is usually compared with scopes being defined by organization policy and needs of all concerned (stakeholders). The results of such comparisons are feed back of input, therefore the scopes and intentions may be changed and resources may be adopted if necessary. As proved such a model may be used by any organization, willing to implement IMS, thus it may be accepted by any small or medium-sized enterprise.

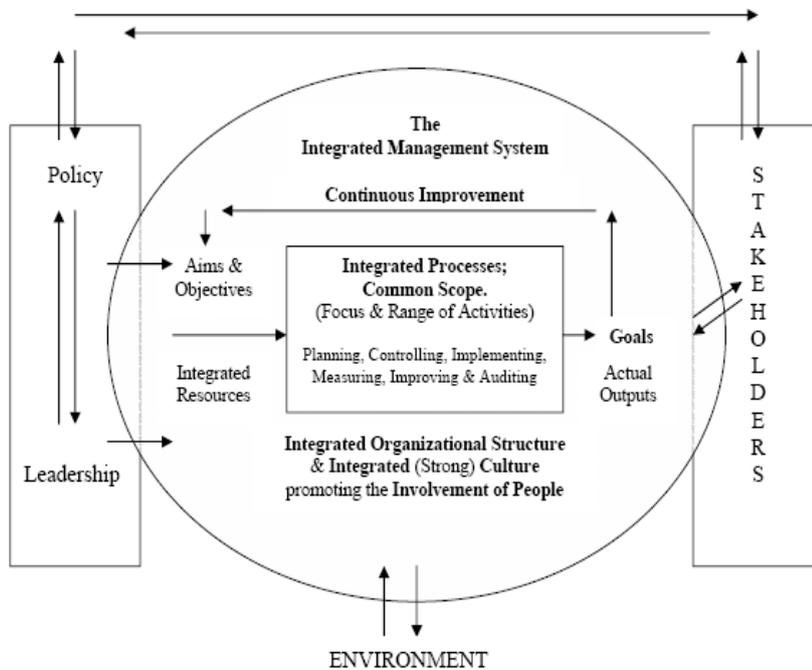


Figure 2 - IMS model

Euro Info Centre EIC/IT 378 and Research Centre for Quality and Environment of the University of Padova are to be the most frequently guide for implementation IMS in SMEs.

The main goals of the guide were (and at the present are): to stimulate SMEs to

implement environmental management systems (EMS); to demonstrate the possibility to integrate EMS with other management systems (quality and safety); to improve the access of the companies to the IMS; to improve the knowledge of the companies on the sustainable development bases.

The intent of the IMS guide is to inform on the convenience and on the way to introduce an EMS when quality and/or safety management systems are already established in an enterprise.

This guide, far from being a substitute for the reference standards, is a support document for SMEs which, independently of their initial situation (ISO 9001 and/or ISO 14001 certification, EMAS registration, no certification, etc.) want to take advantage of the synergies and many points of contact between environment, quality and safety management systems.

The integrated management system guide has realised contents as shown (5):

1. Quality systems
2. Environmental management systems
3. Management systems for health and safety at work
4. Model for an Integrated Management System (Management responsibility, System resources, Product realisation, Measurement, analysis and improvement).

Beside this guide the BSI Management systems published PAS 99. Document is a Publicly Available Specification of common requirements for management systems that can be used as a framework for an integrated management system.

PAS 99 takes account of the six common requirements for management systems standards outlined in ISO Guide 72; guidance document and also follows the Plan, Do, Check, Act approach of all the major management systems requirements standards.

These 6 common requirements are: 1. Policy, 2. Planning, 3. Implementation & Operation, 4. Performance Assessment, 5. Improvement, 6. Management Review

4. REASONS TO ACCEPT IMS

Appearance of external pressure by any state shown through the pass of a number of laws and regulations and through extremely stern punishments for any errors in their implementation, then strengthen pressure of public requiring healthy and safe working environment, they all impel enterprises to revise their practice in implementation of management system. When added other reasons

such as costs for service on consulting and evaluation, time needed to prepare certification and limited human resource it is obvious that some companies must find their own optimal way for parallel and cheap fulfillment of all external and internal requests.

The response is in implementation of integrated management systems, therefore the systems directed towards improvement of work processes in all fields being important for any enterprise.

The first step for establishment of integrated systems is to stipulate regular hierarchy of demands and to expect considered parties being needed for the system. To comply with the principle on risk minimization it should be started with a state as a considered party that may cause the highest damage to a company and than should include the others.

Thus the next hierarchy of demands is reached: Demands of laws and other regulations (law on environment protection, law on work protection, work legislations etc.), Demands of users, needs of enterprise, Demands and needs of social community, (surrounding where an enterprise operates), Demands of standard for management systems.

In addition, SMEs take part in one or more supply chains (*SC - Supply Chain*), where any buyer in SC has its own corresponding demands. These demands influence the SMEs operation i.e. the needs of the buyers of constant and high quality products and strong management that provides all these mentioned. To that effect SMEs are more and more required, as a condition for business cooperation, to implement the quality management system (ISO 9001 : 2000) or environmental management system (ISO 14001). If the production program refers to the nutrition products, any organization should implement HACCP, and in case of work in risk production conditions, ISO 18001 (safety and protection at work) should be implemented. It is obvious that in SMEs the core of business activities should be "moved" from the production management onto management systems providing fulfillment of these and more complex demands of buyers. Large companies also play an important role in starting the SMEs up to accept innovations. This is the result of the fact that most of SMEs are typically included into business to business activities.

Other reasons may also start small and medium-sized enterprises up to integrate

the standards. These starters have been already identified by many authors and it firstly refers to the important role of stakeholders.

Partial management systems are concentrated onto discrete fields being often in mutual contrast, thus some authority conflicts in organization may occurred their application.

Reasons for IMS implementation are also the expected benefits relating primarily to efficiency.

5. BENEFITS OF SMEs IN ACCEPTANCE OF IMS

SMEs may reach a number of benefits if accepts IMS. The benefits are divided into two categories: internal and external ones. The internal benefits are connected to internal function and processes of a company while external are connected to external company activities. More, internal benefits may be divided into three categories: organizational benefits, financial and benefits for employees. Similarly, external ones are grouped into commercial, communication and quality/environmental/safety benefits.

Improvement of internal efficiency and quality of the management is the first internal result that be reached by any small or medium-sized enterprise. That may be achieved for example, if three functional departments are fuzzed to one and by harmonizing organizational structure containing similar elements.

The next one is that integrated system permits equality in management methodology. The integrity of system results in reduce of unclear boundaries between individual systems and in expand of horizon above functional level any of individual system, sharing information across traditional organizational boundaries.

Many standards share the same elements; therefore their integration will enable a company to avoid duplication of system procedures and to eliminate overlap of efforts at identification of danger, development and maintenance of requested control and audit.

Finally, many authors notice reduce in volume of company documents and creation of usual forms that are more easily used by more operators as important material benefit.

Irrespective of above mention organizational benefits, the SMEs may also

reach financial benefits. Cost savings that arise in reduction of the frequency of audit are already confirmed as in theory as in practice. However, audit may not be reduced to one audit only, since the program of internal financial audit will be necessarily enlarged to ensure efficiency of integrated procedures. Financial benefit will be reached by improvement of results on minimization of external certification costs over single certification audit and as a result of increase of data and management staff.

Acceptance of EMS by small and medium-sized enterprises increases motivation of employees, awareness and qualification. This argument may be applied to IMS because it does not protect external surrounding only but it protects internal parameters over management systems for health and safety.

Thus, employees may enjoy better and more safety conditions that create better image of any company and improve relations among employees and management.

Table 2 sums internal benefits that SME may reach through implementation of IMS.

Table 2 – Internal benefits

INTERNAL BENEFITS
<p><u>Organizational Benefits</u></p> <ul style="list-style-type: none"> - Improvement of quality of management by down-sizing three functional departments to one and reducing fuzzy management boundaries between individual systems - Increase in operational efficiency by harmonizing organizational structures with similar elements and sharing information across traditional organizational boundaries - Avoidance of duplication between procedures of systems – Streamlining paperwork and communication
<p><u>Financial Benefits</u></p> <ul style="list-style-type: none"> - Cost savings by the reduction of the frequency of audits - Reduction in external certification costs over single certification audits - Increase in profit margins
<p><u>People Benefits</u></p> <ul style="list-style-type: none"> - Increase in employee motivation, awareness and qualifications - Creation of a better company image among employees

Considering external benefits, IMS may enable small and medium-sized enterprises to reach competitive advantage, to eliminate

possibilities of competitive companies with their innovative strategies to exceed their activities. Furthermore, considering IMS, some authors verify that fulfillment of customer demands and perspective to attract new ones, offer some possibilities to company to increase market.

Besides above mention commercial benefits, SMEs may find positive outlet for company's image. Synthesis of various proves for various management fields and their abilities to demonstrate legal compliance may enable the company to ensure "large picture" of their performances.

Finally, the field of obvious benefits may be identified in the conditions of quality, environment, health and safety performances. Implementation of IMS in small and medium-sized enterprises offers possibilities to reduce damages on machines, storages or product loss and hazardous waste generation as well as minimization of accidents and time loss. These potential positive effects may cause high values for SMEs, if we consider their disadvantages (for example: financial limits, shortage of human resources...) any damages, loss or accident, stoppage as catastrophe.

The fact is that in SMEs, only business parameters, being required by law and those being necessary for operational

function, are filed. Objectively and transparently shown business parameters are rarely available to the leadership for decision making and business activities directing. Implementation of standards for management system ensures collection of data through established evidence system as well as form the data through analyze needed for decision making. The Table 3 presents external benefits.

Table 3 – External Benefits, Categories and Examples

EXTERNAL BENEFITS
<u>Commercial Benefits</u> - Competitive advantage, - Improvement of market place - Gain new customers/satisfy existing ones
<u>Communication Benefits</u> - Improvement of company's image - Improvement of relations with stakeholders - Evidence of legal compliance
<u>Q/E/S Benefits</u> - Improvement in quality, environmental and health and safety - Reduction of hazardous waste generation - Reduction of equipment damage and product loss

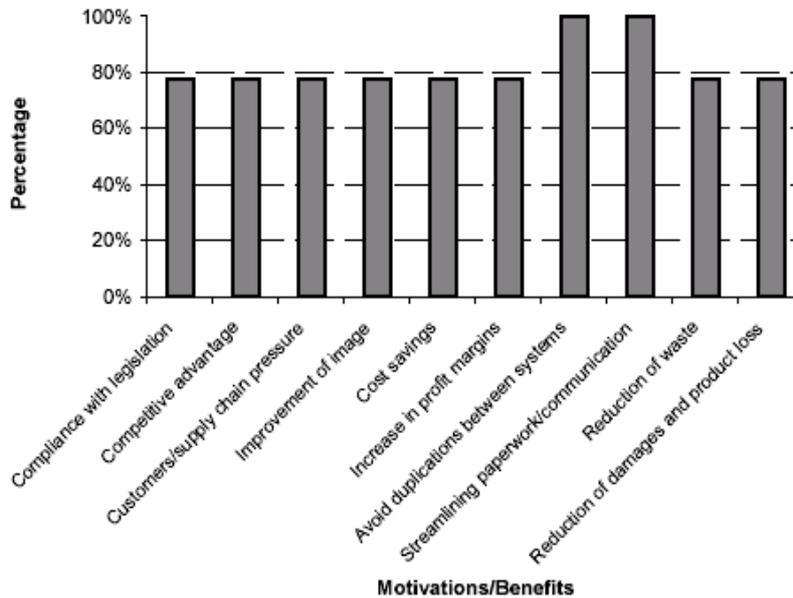


Figure 3 - Benefits of SME with IMS[6]

It should be pointed out that properly established and developed IMS makes possible the business process rules and business activities are available to employees. That is multi useful due to often fluctuation of employees if, for example, one employee, who had important work duties, leaves the company and his colleagues have not had any insight in them. System of evidence and documented procedures and instructions enable any new employee to enter fast the work procedures.

The figure 3 shows benefits of IMS implementation into SMEs according to the East Anglia (#) research.

Implementation of standards and it's verification by the certification body ensure improvement on the markets especially on those activities where clients consider the certificated quality system as a condition for contract signing. Quality constant delivers are offered to clients.

Harmonization of business operations with principles of management system standard surely provides good business practice. Documentation of processes and business activities offers to any leadership the constant view into adequateness and efficiency of those processes, enabling them to establish possibilities on improvements.

Our SMEs, implementing the IMS, considerably increase chances as for survival on domestic market as for further internationalization of the business activities. In the "Competitiveness in Serbian economy" report written by Jefferson Institute (USA) [s] in cooperation with domestic experts, it is stressed, beside others that preconditions for improvement of competitiveness of our export are as follows: harmonization of domestic practice with system standards, ISO 9000:2000 quality and technical legislations; certification on quality of our enterprises and links with export results; international buyers and their requests on quality; WTO agreements; market dimension of quality – CE sign; ISO 14000 – standards in ecology; TQM – constant improvement process.

As it is a very complex subject matter, it could be thought that waiting is the best strategy for small and medium-sized enterprises – any state should firstly pass relative legislations! However, the war for a market is the real war and waste of time in the war means a defeat. It may be said: mention preconditions should be made by a state. But,

small and medium-sized enterprises should not solve problems of the state and society in the whole, they should solve their own problems, and the first one is survival-to survive here and now despite the acts on public procurement and competition of foreign suppliers being more ready technologically; to survive here and tomorrow, after accepting and applying the legislations of European Union by Serbia.

Having the certificate, SMEs enable better rate on tenders and projects, especially those financing by EU.

6. BARRIERS OF SMEs IN ACCEPTANCE OF IMS

As with benefits, barriers in implementation of IMS in small and medium-sized enterprises may be grouped into internal – table 4 (resources, stand points/perceptions, implementation) and external (support and guidance, economy, Certifiers/verifiers)

Importance of financial and human resources is in interest of any SMEs. Most SMEs are the companies with limited budgets although they cannot allocate the funds to initiatives being seen as another aspect of the company.

They also have a lack of management efficiency, resulting the inactivity due to percentage reduce of trained managers; reduce of development of company's access to new technologies. More, lower level of employees' information and their involvement as well as time limits consider considerably the achievements in the field of MS and multifunctional nature of staff becomes more important when company's size falls.

Standpoints and perceptions of employees involved in SMEs, especially managers, are also barriers for acceptance of IMS. Generally, IMS is considered too revolutionary by most organizations and as expected by some, small and medium enterprises are resistance to great changes due to lack of information on awareness and various management styles.

It is stressed in some studies, where also proved, that limited strategy SMEs capacity and its short time orientation do not provide initiatives for innovations.

Negative experience of bureaucracy, being reached when ISO 9000 applied may

fright SMEs.

Also the cultural differences between disciplines are barriers for implementation of IMS. Integration of standards may be reached only where quality, environment and safety are within the same culture, otherwise, the integrated processes will probably create new barriers, resulting in reduce of performances more than in its increase. Although in general, the closeness may appear between the systems, there are some differences being appeared in their internal requests and high effort for implementation is considered as necessary.

Table 4 – Internal barriers

INTERNAL BARRIERS
<u>Resources</u> - Lack of financial resources, - Lack of management and/or staff knowledge, Skills and training, - Lack of employee involvement/motivation, - Lack of management and/or staff time
<u>Attitudes/Perceptions</u> - The change appears too revolutionary/resistance to change, - Low awareness of the benefits, - Other priorities more important, - Perception of bureaucracy, - Short-term orientation
<u>Implementation</u> - Cultural differences between disciplines, - Complexity and differences among systems, - High effort for implementation

Respecting external barriers, SMEs need support and guidance. Review of literature shows that small and medium enterprises may find assistance for implementation of individual schemes. Support for EMS implementation was, for example, subject for research of many researchers and various schemes and programs were initiated as support enabling SMEs to implement EMS. However, support for implementation of IMS in small and medium enterprises is mostly insufficient. This industry sector is without experience not because of lack of implementation tools and examples but also due to information of lower quality and conflicting guidance as a result of lack of skilled staff assisting the SMEs.

Also, small and medium-sized enterprises insufficiently notice driving forces and benefits of MS. Most of SMEs believe in positive effects of EMS implementation that are

reached slowly but the costs fast. More, uncertainty about the value of IMS on markets and skepticism if it will contribute to meet the buyers' demands as well as conflicting of goals and various stakeholder demands are external barriers in IMS implementation.

Barriers also come from high certification/verification costs. As known, it is more functional to approach IMS through the concept «many standards, one system» although a need for specific certification of specific management standards and duplication of effort between certifiers/verifiers and internal auditors may be unavoidable.

Table 5 shows external barriers in IMS implementation of small and medium-sized enterprises.

Table 5 - External barriers in IMS implementation

EXTERNAL BARRIERS
<u>Support and Guidance</u> -Lack of support schemes, -Lack of sector specific implementation tools and examples, Lack of experienced consultants to assist SMEs/poor quality information and conflicting guidance, -Lack of promotion of IMS
<u>Economics</u> -Insufficient drivers and benefits, -Uncertainty about the value of IMS in the market place, -Different stakeholders demands
<u>Certifiers/verifiers</u> High costs of certification/verification, Duplication of effort between certifiers/verifiers and internal auditors

According to the East Anglia [6] research: 75.5% of companies with no implemented IMS is a result of certain barriers in its development: 67.9% of companies state that lack of time is a principal reason, lack of finances and information is at 57.2% of companies, 32.1% of companies complains they are with no trained staff for IMS, 21.3% of companies have not considered yet the possibility to implement IMS, while 7.1% refuse IMS as unprofitable and unused for them.

Domestic SMEs, in their business operations, unfortunately still implement IMS insufficiently. When it is talked on implementation of management concept in

SMEs, it is considered that "for a long time the quality is talked on but little reached in domestic practice, namely, the quality is not acceptable in right way"[1]. Also, motivation of employees should not be neglect for implementation of this management concept that should be on a very high level.

Barrier on motivation of employees for implementation of IMS concept is the most important segment to this concept realization, since without consensus between management and employees, this guidance concept would fast fall.

Besides the state that must perform a part of the job, to have better implementation of IMS concept, it is necessary to change relationship between SMEs themselves. SMEs must change their internal attitude and not expect permanent assistance from the state. Owners of SMEs must show their initiatives to enable appropriate state authorities to react to their needs (Chamber of commerce of Serbia, Agency for development of small and medium enterprises). The initiative may be organizing the small and medium enterprises into associations presenting them to the state. The association may initiate demand for information and later training such as: QMS, Benchmarking, Reengineering etc. Also, initiatives of owners of SMEs may be creation of clusters to advance management in enterprises themselves and to provide internationalization of business operations.

For further development of domestic small and medium enterprise efficiency it is necessary to promote as much as possible the management system implementation. It is necessary to inform better the entrepreneurs and small and medium enterprises on advantages of management system implementation. The entrepreneurs state two reasons on their insufficient activity for implementation of management system in their enterprises: high costs for implementation and maintenance of the management system implementation into SME-s and their understanding that implementation of the management system is impossible due to a low number of employees.

However such statement of domestic entrepreneurs on insufficient number of employees for implementation of ISO 9000:2000 standard is a signal of their insufficient information. Namely, representatives of the Chamber of Commerce

of Serbia and Agency for development of small and medium-sized enterprises must act more aggressive when inform entrepreneurs on implementation of IMS.

Education is considered as a basic resource of an enterprise in modern business activities. Today, enterprises do not reach quality of their products and services in the production stage only but in the planning stage.

Education becomes competitive weapons as much for individuals as for enterprises. If you want to attract and keep the best employees at, you must train them. The training programs in companies are developed 10.000 times faster than of the academic ones. Certain companies such as Apple, Silicon Graphics and Intel have institutionalized the payment of vocation to educate their leading staff. Also, a lot of companies have their own Colleges where future managers are educated. McDonalds' University "Hamburger" has had more than 50.000 students for 35 years and the lecturers are in 22 languages held by 30 full professors.

Insufficient education causes an important problem for development of SME-s business activities. The research [1] has shown that owners of SME-s are not ready for education (64,71%) as an aspect of development of their SME-s business. Inadequate education on management (only 31,25% of examinees have received management education) caused the situation that the entrepreneurs had not let into terms such as: quality, business excellence, integrated management system etc. Owners of SME-s prefer technical-technological education (62,5%) presenting key problem in further development of IMS in enterprise. However, most of SME-s employees, (50,91%) have attended the training courses but mostly, 44,19%, the management ones. Economy services such as Chamber of commerce of Serbia and Agency for development of small and medium enterprises have not placed yet adequate training for entrepreneurs. Namely, the least attended training is the modern management one. However, out of proposals of economy services, the most important initiative is of the entrepreneurs being in the process of education on modern management. They must be initiators to many activities that will result in increase of a number of SME-s modern certificates. Only in that way it is possible to develop SME-s successfully and to advance

domestic business.

Examinees consider that a problem for successful implementation of management system into SME-s could be new owners of privatized enterprises since they focus more on profit while they put the development and employees aside. Also they believe that new owners of privatized enterprises firstly think on profit and they do not think on product or service quality.

Market may present one of limiting factor for implementation of management system into SME. Namely, large enterprises, in their business activities, take over the market, disabling further survival of SME-s, thus the entrepreneurs are not in a position to think on IMS implementation.

7. CONCLUSION

From above mention it may be concluded as follows:

- IMS has become inevitable for SMEs,
- Management and internal efficiency are improved,
- By implementation of IMS the conditions for reduced costs are reached,
- External advantages are achieved (competition benefit, market position and relationship with customers as result of better quality, better performances in the view of environment, health and safety).

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