IMPLEMENTATION OF CONTEMPORARY MANAGEMENT TOOLS IN THE ENTERPRISES IN SERBIA FOR IMPROVING BUSINESS PERFORMANCES AND OVERCOMING THE ECONOMIC CRISIS

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Abstract: Implementation of modern management tools is necessary for making effective business decisions, both operational and strategic. These tools are very important for measuring all business dimensions, identifying the weak operations performances, detecting crisis situations in business, discovering causes and factors of the crisis as well as for designing programs for improving financial and non-financial performances and overcoming problematic business situations. Considering that global economic crisis has influence on the enterprises in Serbia, their managers must effectively use various management tools. The purpose of this paper is to investigate and demonstrate the extent of different management tools application in the enterprises in Serbia. In addition, the goal is to attract managers' attention to make an effort, to provide resources and to remove the barriers for the implementation of modern management tools. This is necessary because the research has shown a low frequency of modern management tools application in the enterprises in Serbia, which can be one of the limiting factors of a successful overcoming of the crisis in the business.

Keywords: management tools, business performances, economic crisis, crisis management.

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Introduction

Functioning of an enterprise is affected by many internal and external factors, which can lead to crises. The crisis in the business may be treated as a short-term disruption in an enterprise functioning, but it can be overcome. However, a short-term crisis can turn into a chronic, long-term crisis that threatens the existence of the enterprise. Serious difficulties in the enterprise functioning are caused by the changes of some macro-economic determinants (decreased level of economic activity, increased level of interest rate, etc.) as well as the changes in technology trends or customers' needs. On the other hand, the crisis in business is a consequence of incompetence, inexperience or failure of management. Regardless of the factors that cause the business crisis, it is inevitable to diagnose the causes and determinants of the crisis, identify and monitor the crisis situation through measurement and analysis of crisis performances, and then to define and implement the actions and programs to overcome the crisis.

The enterprises in Serbia, as well as the enterprises in the world, have been facing the consequences of global economic (financial) crisis. The negative effects of this crisis reflected on the majority of enterprises in Serbia through decrease in demand and liquidity, investment delay and growth of inputs prices (cost of capital, in particular). Solutions that management can define are costs reduction (without negative effects on product quality), inventory level reduction, reduction of credit volume, product assortment improvement, etc.

The government usually takes some actions for stimulation of products/services demand, stimulation of export, and protection of domestic production. In addition, under the economic policy, the government can:

- Give credits with the state stimulation for increasing liquidity and project investment,
- Abolish the surtaxes for import of certain raw materials, which are not produced in the country,
- Control the inflation and exchange rate, etc.

Compared to the effects of actions taken by more powerful national economies, the actions taken by Serbian government have lesser positive effects. Such effects are consequence of limited financial capacity of Serbian economy.

Managers have a great role in overcoming the negative effects of the global crisis, and preventing their impact on business operations. Application of modern concepts and tools in business performance management is very important. Precisely, these concepts and tools can be helpful for well-timed identification of emergencies, direction of the enterprise towards new strategic options and improvement of the strategic and operational business efficiency. Therefore, the focus of this paper is analysis of application of modern management tools in the enterprises in Serbia, their role in performance management, and overcoming the negative, external factors that proceed from the global economic crisis.
1. Contemporary Management Tools for Improving Business Performances – Theoretical Background

Dynamic business environment has greatly diminished the importance of some traditional management concepts, techniques, and tools. Strategic thinking is constantly changing, and therefore innovative strategies for new business conditions appear. In order to assure success in process of their implementation, as well as success in business processes and activities performed, managers should apply modern management concepts. Some of them are: the Balanced Scorecard, Performance Prism, Total Quality Management (TQM) as business excellence model, ISO 9000 and other standards, Six Sigma, Just-in-time (JIT) concept, techniques and tools of Statistical Process Control (SPC), Customer Relationship Management (CRM) concept, techniques for cost control, supplier relationship management, compensation programme based on performances, etc.

A large number of management tools and techniques can be used for the improvement of business efficiency and business performance management in regular conditions, but also in business crises. In this research, the emphasis is on the implementation of modern management tools in enterprises around the world, and in particular, on the analysis of their implementation in the enterprises in Serbia. Complementary implementation of these tools can serve managers for directing different economic and non-economic determinants of business performances.

Feature of contemporary enterprises is expressed in interconnection and interdependence of their organizational units as well as of employed individuals. This implies the interconnection and interdependence in management system or business performance management. In order to provide previously mentioned, it is particularly important to create an adequate, comprehensive system for business performance measurement. Balanced Scorecard (BSC) [1, 2, 3, 4] was developed primarily as a performance measurement system or system for monitoring the effects of corporate strategy as well as business units strategies. Such a system has emphasized, besides financial, non-financial measures, too. These performance measures can serve for evaluation of tangible and intangible (intellectual) resources usage as well as for evaluation of contributions and requirements of key business stakeholders. The Balanced Scorecard was later developed into a comprehensive system for performance management, which [5, p. 172]:

- Facilitates the process of strategic and operational planning,
- Provides an integral measurement of business performances,
- Enables strategy and objectives communication through the organization,
- Contributes to the quality of reporting process about actual performances at different levels of the organization,
Provides the base for design of compensation system for employees’ and managers’ motivating, based on achieved performance.

Numerous experiences of enterprises worldwide, which have implemented the Balanced Scorecard, compared to ones that have not, show that enterprises with well-established BSC system have significant benefits such as [6]:

- Greater compliance between senior management levels about the strategy content,
- Adequate managers’ cooperation and teamwork,
- Better communication and open exchange of information,
- Strategy communication throughout the enterprise,
- Better monitoring and reviewing.

In addition, some reports have shown that BSC, as a performance measurement system, provides better results than the traditional approach [2, p. 356].

The Performance Prism concept [7] deals with the relationships among stakeholders, which are considered as important resource of enterprises. In fact, it focuses on the complexity, conflict interests and objectives of various stakeholders. Performance Prism has been established with the purpose to satisfy management’s needs for the information for effective decision-making. It has been conceptualized as a stakeholder performance measurement system, which is in function of effective stakeholders’ relations management. This five-dimensional model, introduced by Neely, Adams and Kennerley, emphasizes the satisfaction of stakeholders, the contribution of stakeholders, strategies related to each stakeholder group, processes and activities that should be performed in order to achieve the defined strategies, and capabilities for their efficient execution. In the model, the financial and non-financial performance measures are differentiated according to stakeholder groups. Measures selected for tracking the stakeholder relationships should reflect strategy, which enterprise has formulated and accepted for implementation. In the process of designing and selecting the performance measures, managers must take care of the elements that will connect the impacts and requirements of various stakeholder groups. Between stakeholder groups, hierarchy should be established. The hierarchy should reflect the priority of their goals, according to a certain hierarchy of business objectives. This implies hierarchy of stakeholders’ relationship performance measures.

TQM concept and philosophy [8, 9] treats quality of economies of enterprise (business success) as the highest management priority, and business efficiency as an effect that proceeds from continual effort and gradual improvements in different dimensions of performances. The experiences of foreign and domestic companies have shown that the implementation of TQM program is very cost-effective investment. Efficient TQM program contributes to growth of work productivity, increase of sales volume resulting from higher level of
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customer satisfaction, reduction of costs of product and process quality, and consequently, profit growth. Results achieved in a large number of companies confirm the importance of TQM programs implementation for improving performances of used resources. Areas in which an enterprise must continuously monitor its performances’ improvement are: production time, defects in manufacturing and other processes, market expansion and customer loyalty, development of strategic partnerships, investments in training and staff development, quality of management, financial results.

*Statistical process control* [10, 11] is considered as an important tool in business process management, and is used for monitoring, controlling and improving process performances. Besides, statistical process control is extremely important in operationalization of TQM philosophy. Therefore, the relevant aspects of statistical quality control are statistical quality control of products/services and statistical quality control of business processes (production, purchasing and receiving raw materials, product delivery, etc.). The purpose of statistical process control is improvement of process performance. It incorporates the application of various techniques, such as the process distribution curve, process capability index, control chart, Pareto diagram, cause-and-effect diagram, etc. Statistical process control significance proceeds from its positive impact on cost of quality reduction (prevention, detection, internal and external failure). According to the practical experiences [10], its application can contribute to significant costs reduction. In addition, SPC has great importance in the business process management, because it contributes to higher quality of process outputs and reduction of inputs. Costs of quality control and costs caused by defects debugging can be decreased because the errors are detected immediately after they occur. Therefore, the importance of statistical process control is reflected in reducing the costs of quality and raising the overall process efficiency as well as the enterprise as a whole.

*ISO standards* are deeply rooted in the business of many profit and non-profit organizations worldwide. ISO 9000 standards are related to quality management in order to meet the demands of enterprise’s customers concerning quality of products and processes, customers’ satisfaction and continuous improvement of business performances [12]. The application of these and other standards (ISO 14000, for example) makes the development, production and distribution of products more efficient, safer and more environmentally sustainable, contributes to the innovation diffusion, and facilitates trade between different countries.

*Six Sigma* [13, pp. 92] emphasizes the principle of business quality, and it means achieving 6σ quality level. The Six Sigma concept incorporates a wide range of statistical process control techniques and quality management techniques. The premise of this concept is that enterprises tend to provide higher quality with lower costs level. Concerning this, organized and disciplined approach to business problems, like Six Sigma methodology, is necessary. This approach is focused on
elimination of variations, defects, errors, waste, etc. It emphasizes in-depth observation of problems, avoidance of superficiality in its resolution, and focuses on the causes of the problems. The Six Sigma concept assumes continuous and incremental improvements of process performances.

*Just-in-time philosophy* is an unavoidable part of business strategies of high performance companies [14]. Consistent application of the principle “well time-scheduled activities”, which is the backbone of this concept, provides significant results in terms of reduced inventory, increased sales, increased productivity, shortened cycle time, faster response to changes in demand, well-timed detection of errors, reduced delivery time, higher inventory turnover, reduced number of crisis situations and others.

*Customer relationship management (CRM)* [15] is a concept that focuses on customers, their analysis, ways of creating value, long-term relationships, loyalty programs, customer satisfaction measurement. All of this is relevant for formulation of a successful customer relationship marketing strategy [16].

*Supplier relationship management* [17] is a concept that focuses on the partnership and long-term cooperation with suppliers. In modern business environment managers treat relations with suppliers as the important strategic resource. These relations contribute to superior value for customers, because even through managers can influence the relevant economic parameters, primarily quality of finished products/services proceeds from the quality of purchased materials. While quality of materials influence the quality of products, their prices influence the prices of products and services. This means that activities in supply chain influence costs and revenues, and hence profit and value for the owners.

Effective *cost management* involves “planning, monitoring, analysis and control of costs in order to achieve the minimum costs for maximum results” [18, p. 280]. Activity Based Costing (ABC) [19, 20] provides the relevant information support for performance management. It is focused on improvement of business performances by reducing the total cost while maintaining the level of sales volume. Costs control is performed through identification of deviations from the desired, objective activity cost level, which are induced by subjective factors. Beside this concept, under the cost management, special attention is paid to costs of quality concept [21].

Effective enterprise management requires the design and implementation of compensation systems based on performance [22]. The primary task of management is to design compensation system, which stimulates the achievement of long-term and short-term business goals through motivating and rewarding managers and other employees. A special role in compensation system has variable compensation program, which is designed according to the principle that the basis for incentives (bonuses) is achieved performance. This system includes two subsystems: individual compensation system (for employees and managers in
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particular) and group compensation system (for the company as a whole, organizational units and organizational segments within them). An effective compensation plan is one of the necessary conditions for directing of business towards success.

2. Methodological Framework of the Research

Modern management theory suggests many new or renewed concepts, models and techniques, the application of which can help managers to provide or sustain competitiveness of enterprises under the crisis conditions. The key question that concerns competitiveness under the crisis conditions is if managers are willing to accept these concepts, models and techniques, concerning that their application demands certain abdication in terms of time and money.

Foreign capital, which has arrived to Serbian economy through privatization process or greenfield investments, has brought with itself interest in modern management theory accomplishments. The purpose of this paper is to evaluate effects of modern management tools on business performances of enterprises in Serbia. Therefore, the basic assumption of the research this paper is based on is formulated as follows:

The implementation and continual application of modern management concepts, models and techniques has positive influence on decision-making and business performances and, therefore on identification of causes of crisis situations and diminishing of their negative consequences.

In order to check the validity of this hypothesis in the case of Serbia, an empirical research was conducted in 2007, and repeated, on the same sample, in 2010. The subject of research was Serbian economy or the enterprises that it consists of, regardless of the capital origin (domestic of foreign). The sample included 60 enterprises, from which 27 large (more than 250 employees) and 33 small (less than 50 employees) and medium (between 50 and 250 employees) sized enterprises. Though it was reasonable to compose the sample stratums based on the data about the number of enterprises in each category in Serbia, stratification was carried out in accordance with the ratio of number of employees in small and medium-sized, on the one side, and in large enterprises, on the other side. The justification for choosing this (secondly mentioned) criterion for stratification came from the regular data of Serbian Chamber of Commerce, according to which the percentage of large enterprises in Serbian economy in 2006 was only 0.9%. If the size of the stratums had been determined based on the number of enterprises in each category in Serbian economy within the sample of 60 enterprises, there should be a place for only one large enterprise. Considering that is not reasonable to make conclusions about all large enterprises based on the case of only one, the number of employees in mentioned categories was used as a criterion for stratification.

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The research was composed in the following way: 1. Questionnaire formulation, 2. Sampling (choosing the enterprises that will form the sample), 3. Collection of data (through survey of Serbian enterprises’ managers), 4. Analysis of collected data, graphical and statistical presentation of the research results, and finally, 5. Making conclusions and formulating suggestions for managers of Serbian enterprises with the purpose of diminishing expected negative effects of economic crisis. The questionnaire has two parts. The first one has comprised the basic questions concerning enterprise size, capital origin, industry as well as the amount of profit (loss). When the collection of data has been repeated this year, the first part of the questionnaire was supplemented with few more questions concerning the most used business performance (including financial) indicators and those indicators’ level compared to the same in 2007 (in terms of increase or decrease in percentages).

The second part has comprised 20 questions concerning the implementation of modern management concepts, models, techniques, and methods. The intention of the first set of questions was to show if managers are familiar with the tools of modern strategic and quality management. The accent was on the Balanced Scorecard and Performance Prism, precisely on implementation of the principles and philosophy that these tools promote. Concerning quality management, the focus was on Total Quality Management and other modern versions (like Six Sigma). The second group of questions was related to performance measures under operations management, like efficiency and process capability measures, including statistical process control. Considering that strategic management tools, besides process management, promote cooperation with customers and suppliers, one group of questions was focused more on issues concerning relationship with customers and suppliers. Since costs still represent significant factor of competitiveness, especially under the crisis conditions, the questionnaire comprehended questions concerning costs, with the accent on costs of quality. Finally, considering that managers represent the most important employees in crisis conditions, the intention of the last set of questions was to show the way of structuring the compensation system for managers.

The data collected during the survey were crossbreed and combined by certain statistical software. The graphical presentation of results has provided clarity of information and facilitated making conclusions in the economic way.

Based on the information provided after data analysis, the authors have formulated conclusions. Those conclusions show how close or far practice in Serbian enterprise is from the modern management theory or to what extent modern concepts, models, methods and techniques have been implemented so far. Conclusions based on the research results represent the basis for formulating recommendations for managers in Serbian enterprises, with the purpose of providing the best possible performances in the crisis conditions.
3. The Research Results and Experiences of Managers in Serbia

As it is already mentioned, the first group of the questions deals with the implementation of modern strategic management models. Since they are the most known and widely accepted, the proposed models were the Balanced Scorecard and Performance Prism. The result of the research has shown the unacceptably low percentage of enterprises that have been implementing these tools. When the whole world speaks about and accepts the Balanced Scorecard and Performance Prism as strategic management tools in the last few decades, it is unacceptable that in Serbian economy, only 25% of enterprises use one of these models for strategy formulation and implementation. Even greater concern arises from the fact that managers did not know what is the essence and purpose of these models.

In some cases, managers who were interviewed denied that they use Balanced Scorecard or Performance Prism, but after the brief explanation about these models, they confirmed that they use similar models (but not under the famous names). From 25% of enterprises that have been implemented mentioned models, 18% use Balanced Scorecard, and only 7% use Performance Prism for strategy formulation and implementation [23] (Figure 1).

Figure 1: Balanced Scorecard and Performance Prism presence in Serbian economy

The research realized in this year confirmed the low percentage of strategic management models presence in Serbian economy. However, the structure of enterprises is a bit changed in favour of Balanced Scorecard (20% Balanced Scorecard, and 5% Performance Prism). From informal conversation with managers, it can be concluded that the implementation of Balanced Scorecard and Performance Prism is missing due to the abstractness of these models, which is partly a consequence of poor connection and cooperation between scientific institutions (faculties and institutes) and enterprises (their managers).
According to answers about ISO standards implementation, the situation in Serbian economy is much better, compared to strategic management models implementation. Even 63% of managers confirmed ISO standards presence in their enterprises. However, though higher compared to strategic management models implementation, this percentage can be considered insufficient from the other point of view. Particularly, implementation of these standards very often represents a tool for overcoming the barriers for entering new markets or cooperation with foreign partners.

From the informal conversation with managers, it can be concluded that primary objective for ISO standards introduction is precisely providing foreign partners. Lead by the positive experience of the enterprises that have been implemented ISO standards until 2007, other enterprises have followed their example. After three years, in 2010, the percentage of the enterprises that have implemented ISO standards has been increased to 71%. This means that maybe percentage is not satisfactory, but there is positive trend (Figure 2).

Figure 2: Number of enterprises in Serbia that have been implemented ISO standards (until 2007 and until 2010)

Concerning tools for quality and time management, the ratio of enterprises, which use them compared to the total number of the enterprises in the sample, is unsatisfactory, too. The results from research conducted in 2007 show that only about 31% of enterprises have been using Total Quality Management principles, philosophy and tools for quality management improvement. The Six Sigma concept, as Total Quality Management extension, in 2007 was present in only 2 enterprises (Figure 3). Managers of these enterprises explained that Six Sigma concept introduction has proceeded from the foreign partners’ demands on this topic. The research results from 2010 show that the number of enterprises that have been implementing Total Quality Management has slightly increased (about 38% or 23 enterprises), but that the number of enterprises that have been implementing Six Sigma concept has remained the same.
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Just-in-time concept, as the most famous in the group of time management tools, was present in only 9 enterprises in 2007, and in 14 in 2010 year, according to the research results. The small number of enterprises that have been implemented just-in-time concept is concerning, but not surprising, because it is usually used parallel with quality management tools, which are, as it was previously explained, rarely present in Serbian economy.

Figure 3: Percentage of enterprises in Serbia that have been implemented Total Quality Management and Just-in-time concept

Analysis based on \( \chi^2 \) test has shown that an enterprise size has influence on implementation of quality and time management tools. The large enterprises in Serbia are leaders in implementation of Total Quality Management and Just-in-time, which signifies the fact that they have to include themselves in the world economic flows, while small and medium enterprises must build their chances in cooperation with the large ones. Likewise, the analysis based on the same statistical test has shown that capital origin has influence on implementation of quality and time management tools too, in the sense that quality, and time management tools are more often present in the enterprises with greater percentage of foreign capital.

Quality control, under Total Quality Management, implies finished products control, product parts control, operations control and statistical process control. These forms of control can be considered as some kind of (evolutionary) levels of control. However, in the most of the enterprises in the sample the last form of control was missing (it was present in only 12 enterprises). As it was expected, according to the research results in 2007, finished products control was present in all the enterprises, while control of product parts and operations control were present in 36 enterprises (Figure 4).
If managers realize the difference between finished products' control and process control, with accent on the advantages of the second, they will find the way to facilitate statistical process control affirmation. This confirms the percentage of enterprises that use statistical process control (in some forms and with certain instruments), which has been raised from 20% in 2007 [23] to 38% in 2010 year.

Figure 4: Levels of quality control in the enterprises in Serbia

One group of questions concerned the usage of efficiency and capability measures and instruments. Figure 5 shows to what extent some measures and instruments have been applied in Serbian economy. In the group of the most applied are levels of capacity usage, process efficiency, flow diagram, throughput time, cause-and-effect diagram. Significantly lesser, according to managers, are processing time, control charts, Pareto diagram, process capacity index, because they have been applied in less than 15 enterprises (based on results of research in 2007).

In 2010, compared to 2007, there has been a slight increase in the application of mentioned measures and instruments. However, concerning is the fact that introduction of new measures and instruments is characteristic for the enterprises that have already used some of them. Particularly, in 2007 in the sample there were 15 enterprises or 25% of total number which have been applied more than 7 efficiency and capability measures and instruments for the key business processes' improvement. Results have shown that in 2010 this group of enterprises are applying more than 10 efficiency and capability measures and instruments. This means that enterprises that have been applied some efficiency and capability measures and instruments have realized their significance for better decision-making, which is positive, but the enterprises that have not been applied those measures and instruments still make no improvement concerning this issue.
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Figure 5: Efficiency and capability measures and instruments usually used in enterprises in Serbia in 2007

![Bar chart showing the usage of various tools and measures in enterprises in Serbia in 2007.

Relationships with customers and suppliers are very important for providing or sustaining competitiveness in any time and especially under the crisis conditions. In order to check if managers in Serbia are concerned about these relationships, they were asked to evaluate certain allegations. The results of descriptive statistics are shown in Table 1. Descriptive statistics in this table includes arithmetic mean (μ), median (Me), modus (Mo), modus frequency (Freq), standard deviation (std. dev.), as well as distribution curve (histogram).

Even though results of the analysis show that managers are aware of customers and suppliers relationship significance and therefore are aware of the necessity of these relationships management, there are certain illogical results.
Particularly, modus that concerns the allegation about customers’ satisfaction measurement has the highest possible value (5), which means that the most of the enterprises regularly measures customers’ satisfaction, but considering the mean (3.72) there are also many enterprises, which are hardly interested in their customers’ satisfaction. In informal conversation with managers, almost all of them claimed that customers’ satisfaction is very important for enterprise’s long-term success, and therefore the question that imposes is: how can someone know if customers are satisfied if he does not measure it? Those how do not measure, can only guess about something or someone. The allegations that had the highest average marks were the following two: customers have been supplied with quality products (4.10) and suppliers have being chosen based on quality and time criteria more than on price (4.00). The allegations that had the lowest average marks (besides customers’ satisfaction measurement) were the following two: obligations to supplier have been discharged on time (3.65) and products have been delivered on time (3.98). Described situation in the enterprises in the sample is very unfavourably for Serbian economy and it has to be changed if Serbian enterprises have intention to overcome the negative effects of the economic crisis. As it can be seen from the previously mentioned results, time management concepts and models could be very helpful for providing the success of Serbian enterprises.

Table 1: Descriptive statistics for the allegations concerning relationships with customers and suppliers

<table>
<thead>
<tr>
<th>Allegations</th>
<th>μ</th>
<th>Me</th>
<th>Mo</th>
<th>Freq</th>
<th>Std. dev.</th>
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<tr>
<td>obligations to supplier have been discharged on time</td>
<td>3.65</td>
<td>3.50</td>
<td>3.00</td>
<td>22</td>
<td>1.18</td>
</tr>
<tr>
<td>suppliers have being chosen based on quality and time criteria more than on price</td>
<td>4.00</td>
<td>4.00</td>
<td>5.00</td>
<td>22</td>
<td>0.96</td>
</tr>
</tbody>
</table>
One way for checking the success of the implementation of models for business improvement is to measure and analyse costs, according to the classification proposed by Feigenbaum [24]. He suggested that costs, which he calls “costs of quality” should be divided in four groups: prevention costs, detection costs, internal failure costs and external failure costs. In the enterprises where models for business improvement (especially through appropriate quality management) were successfully implemented, in costs of quality structure dominate prevention and detection costs compared to internal and external failure costs. Problem that concerns empirical testing of this assumption is the fact that in the great number of enterprises, these groups of costs are not available or there is no information about their amount, because they have not being measured and analysed.

In only five enterprises, there is a practice of measuring and analysing all four categories of costs of quality, which is 8% of total number of enterprises. The categories that are usually measured are internal and external failure costs (Figure 6). Unfortunately, this is not enough, because the purpose of activities that imply prevention and detection costs is to decrease internal and external failure costs, and therefore the total amount of costs of quality.
Managers are the ones that direct, coordinate and control the other employees' behaviour and accomplished performances. Therefore, their motivation can be considered as critical factor in crisis conditions. The best way to motivate managers is to connect the performances they achieve to the compensation they receive. Besides salary, as a fixed component of managers' compensation system and a primary form of compensation, managers in Serbia, as compensation for achieved performances, usually get bonuses, promotion, business car and other non-financial benefits, but rarely shares or share options (Figure 7).

According to the research from 2007, only about 50% of the enterprises have introduced variable compensation component, which is not satisfactory indicator. Three years later, the situation has been significantly changed (about 75% of enterprises have introduced variable compensation component). However, forms of compensation based on short-term indicators still dominate compared to shares and share options. According to the analysis (based on $\chi^2$ test), based on data concerning capital origin and variable component presence in compensation system for managers, it can be concluded that there is dependence between mentioned variables or that capital origin influence the managers' compensation system structure.
4. Experiences in Implementation of Contemporary Management Tools for Improving Business Performances and Overcoming the Crisis

In referent literature, there is evidence on empirical researches, conducted with purpose of testing the effects of different management tools on business performance improvement. Thus, for example, research conducted by Davis and Albright [25] confirmed the importance of implementation of the Balanced Scorecard, as a system of measurement, for financial performances improvement. Hoque and James have made similar conclusions based on their research [26] as well as Banker et al. [27], in the sense that the usage of non-financial performance measures in the Balanced Scorecard is connected to financial performance improvement.

Based on the research results of other authors, Martiney, Kenmerley and Neely [28] have specified various forms of influence of performance measurement system, (the Balanced Scorecard, Performance Prism, etc.) on business performances and business success. According to Anderson et al. [29], above mentioned performance measurement systems influence reputation improvement and leadership development. Davis and Albright [25], emphasize positive influence of performance measurement systems on customers’ satisfaction improvement. Evans et al. [30] point out positive influence on sales and market growth, while Gubman [31] highlights effects of increased work productivity, measured as income per employee. Especially interesting are research results of authors that point out influence and effects of performance measurement system on managers and employees motivation [32] and top management commitment [33].

Considering TQM programs, some authors have tested their influence on income [34], as well as on return on sales [35]. The research results have shown that there are certain positive effects on both financial performance measures. Hendrick and Singhal point out that TQM programs increase efficiency, through process improvements and reduction of defects, rework, waste, and that they can contribute to reduction of number of employees and employed capital [35]. Hansson and Eriksson, however, have analysed positive impact of TQM on financial performances [36].

According to Chow-Chua et al. [37] research results about ISO 9000 certification show positive effects on overall business (financial) performances. Likewise, the research conducted by Terziovski et al. [38] show that “there is a significant and positive relationship between the manager’s motives for adopting ISO 9000 certification and business performance”.

In the research [39, p. 49] concerning JIT system application effects, “reducing costs and reducing lead-time” are presented as this system benefits. Another research [40] has shown that „practicing JIT and statistical process control could generate more improved production performances“. Mishra and Dangayash
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[41] emphasize SPC as effective tool for prevention of errors and defects in production process and confirm its usefulness in process of performances improvement.

It is clear that various research results show the influence of the effective implementation of modern management tools on business performances. These tools have a great role in overcoming the consequences of world economic crisis in companies around the world. Considering that research results presented in this paper show modest or insufficient application of various management tools, there are not great expectations about efficient and fast overcoming of the effect of the world economic crisis in enterprises in Serbia. In this study, through the survey, managers of enterprises in Serbia have qualified many consequences of the global economic crisis on business. They have mentioned: reduced liquidity, reduced production and export, reduced competitiveness, lower investment activity, problems connected to providing additional capital, higher cost of capital, delay in the development programs implementation, the problem of excess capacity, and in particular the surplus of employees.

Solutions for the mentioned problems and crises can be treated as subsequent (“lagging”) indicators of the crisis. They can be influenced indirectly by improving the so-called causal (“leading”) performance indicators (i.e. process or operational). For the improvement of these performances, a special role has implementation of comprehensive performance measurement systems, as well as TQM programs that are supported by ISO standards, Six Sigma, statistical process control techniques and others.

According to the subjective assessment of the interviewed managers, comprised by this research, there is awareness about the importance of modern management tools implementation. The greatest number of managers (76%) said they those tools are useful, but only a small number (14%) evaluate them as effective for decision-making. The research has shown that the awareness of management of Serbian enterprises is still at low level, when it comes to installation and application of modern management tools for guiding business activities, identifying key success factors, detecting signals of crisis in the business and the threats coming from the environment, as well as detecting hidden internal inefficiencies and failures. Some of the interviewed managers have not explained why they do not use modern management tools. We believe that there is a lack of knowledge concerning methodology (tools) and the reluctance of managers to learn, and to check their decisions’ validity. In other words, managers have to replace intuition with the results of objective, scientifically based techniques for identifying the influence of business factors for making operational and strategic business decisions.

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5. Instead of a Conclusion:
Implications for Managers of the Enterprises in Serbia

The research results concerning the implementation of modern management tools and their impact on the identification of poor operations performance and potential crisis, which ultimately determine the weak financial performance of enterprises, indicate the necessity of their effective implementation in the enterprises in Serbia.

However, the research results have shown insufficient application of these tools in the enterprises in Serbia. Precisely, research studies have shown that the modern management tools are more used in large enterprises, but insufficiently in medium and small enterprises. In addition, managers justify the situation of insufficient application of modern management tools with everyday activities preoccupation and the lack of time, which is necessary for implementation and consistent application of modern management techniques and tools. In particular, especially highlighted is the fact that managers in Serbia do not consistently implement certain management concepts and tools. For example, they try to apply the ideas of the Balanced Scorecard concept as a system of performance measurement (in the sense of incorporating non-financial measures into measurement system), but they do not use it as a comprehensive system for performance management (performance planning, performance reporting, developing compensation systems). It is also one of the limitation factors for providing positive effects, which could be achieved by management tools implementation in decision-making process.

For the last four years, the strategic management tools, like the Balanced Scorecard and Performance Prism, are present in only 25% of the enterprises. Implementation of ISO standards is at significantly higher level (about 70% of the enterprises in the sample). However, ISO standards implementation, in the most situations, is not the result of management’s awareness, but foreign partners’ persistence. The positive result within this research concerns the growing trend in TQM implementation. Though JIT system implementation also has a positive trend, it is still present in very small number of enterprises (only 14 in 2010.). As the worst results can be considered the ones concerning SPC implementation, as well as efficiency and capability measures and instruments (for example, only 12 enterprises have been using SPC, while only 25% of the sampled enterprises have been using more than 10 efficiency and capability indicators). The research results have shown that managers are aware of customer and supplier relationship management, but also that they are not concerned about their satisfaction measurement. Considering that management is affected by performance measurement, this may be a serious problem for the enterprises in Serbia. Since the research results have shown that prevention and detection costs (as components of costs of quality) are identified and measured in less than 30% of the enterprises, this
may be an area that managers should focus on, considering that it is “extended hand” of TQM concept. In the structure of compensation system there has been a certain positive trend for the last few years. However, the weakness of compensation system in the enterprises in Serbia is the insufficient usage of shares and share options as compensation component for senior management motivation and commitment.

Managers in Serbia should explore all potential benefits of various management tools as well as possible constraints and resources needed for their effective implementation. Positive effects of management tools are generally not obvious immediately, but require longer and continuous implementation. Management of the enterprises in Serbia must be aware of all the challenges in their implementation. Bearing in mind the necessary resources as well as the complexity of installation and application of modern management tools, managers of the enterprises in Serbia should seek professional assistance from consulting companies and research institutes.

Likewise, managers of the enterprises in Serbia should use the positive as well as negative, experiences of foreign enterprises in the implementation of management tools and detection of crisis factors. Through analyses of various case studies, they can realize solutions for their own problems. This form of successful practices and knowledge transfer can help managers in Serbia to anticipate negative effects of the economic crisis in order to avoid and overcome them.

References