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CONVERGENCE TO PROCESS ORGANIZATION BY MODEL OF PROCESS MATURITY

ПРИБЛИЖАВАЊЕ ПРОЦЕСНОЈ ОРГАНИЗАЦИЈИ ПОМОЋУ МОДЕЛА ПРОЦЕСНЕ ЗРЕЛОСТИ

Summary: *With modern business process orientation binds primarily, process of thinking and process organizational structure. Although the business processes are increasingly a matter of writing and speaking, it is a major problem among the business world, especially in countries in transition, where it has been found that there is a lack of understanding of the concept of business process management. The aim of this paper is to give a specific contribution to overcoming the identified problem, by pointing out the significance of the concept of business process management, as well as the representation of the model for review of process maturity and tools that are recommended for use in process management.*

Key words: *business process management, process maturity, processes*

JEL Classification: *M11*

Резиме: *Уз модерно пословање првенствено се веже процесна оријентација, односно процесно размишљање и процесна организациона структура. Иако се о пословним процесима све више пише и говори, ипак је као велики проблем међу пословним светом, посебно у земљама у транзицији, уочено неразумевање концепта управљања пословним процесима. Циљ овога рада је давање одређеног доприноса превазилажењу уоченог проблема, кроз указивање на значај примене концепта управљања пословним процесима, као и кроз приказ модела за преиспитивање процесне зрелости и алата који се препоручују за коришћење у процесном менаџменту.*

Кључне речи: *управљање пословним процесима, процесна зрелост, процеси.*

ЈЕЛ класификација: *M11*

1. INTRODUCTION

Process orientation is a major tool for the process evaluation and to study ways in which processes can be created, restructured and managed to improve performance (Anupindi et al. 2012, 7). The need to control the process of site, as well as the need for monitoring and measuring the performance of objectives, at the level of the process as a whole and at the level of sub-processes, activities and specific tasks was indicated by Michael Porter (Porter 1985).

The success in the implementation of the process approach is largely dependent on the ability of top managers as well as their knowledge and commitment to the introduction of new organizational forms. Their primary task is to improve the organization of mechanisms for managing changes in order to increase readiness to accept change. Only when the readiness for change is at a certain level, then we can approach the definition of business processes and the introduction of e-business, which is a very important part of business infrastructure in today's conditions. Worldwide recognized theorist Drucker indicates that the organization is the one that has to be a key subject of change, because the most effective way to successfully manage changes is to initiate the changes by themselves (Drucker 2002, 213).

In the time that we are facing, process orientation will be more present, as some indications show in certain legal and regulatory rules that are in effect in the United States and Europe. Because of them a certain pressure is applied on top managers to turn to procedural thinking and process

orientation (Bosilj Vuksic et al. 2008). According to research of Antonucci YL, Goeke R., more than 80% of the world's leading organizations are in the implementation phase of a program of business process management (Antonucci and Goeke 2009).

Also, D.J. Thomas and P.M. Griffin point to the fact that companies are ranging from decision-making in unrelated processes to the coordination and integrated design and control of all of their components in order to achieve the objective to be pursued by any company, and that is the provision of goods and services to customers with the lowest possible costs and a high level of quality (Thomas and Griffin 1996).

Although the business processes are increasingly a matter of writing and speaking, it is a major problem among the business world, especially in countries in transition, where it has been found that there is a lack of understanding of the concept of business process management. The aim of this paper is to give a specific contribution to overcoming the identified problem, by pointing out the significance of the concept of business process management, as well as the representation of the model for review of process maturity and tools that are recommended for use in process management.

2. PROCESS WAY OF ORGANIZING COMPANIES

The fact is that the survival and development of the organization depends on its ability to adapt to the circumstances of the economic environment. Changes in economic conditions result in a need to perform an adequate adjustment in the field of organizational structure and the management process itself. Efficient management in nowadays market economy means that the organization is able to be flexible and to have expressed anticipatory approach to market movements that is followed by planning, measurement and control of the achievements of activities and processes (Smith 2012).

The organizational structure of the functionally organized companies is clearly defined and adjusted for management functions and departments, but not for horizontal processes. If we want to introduce a business process management in an organization that is functionally organized, it is necessary to implement adequate changes in the organizational structure, in the methods, procedures, rules, policies, standards of conduct, the identification, description and networking activities etc. Functionally organized enterprises conduct improvement of organization through changes of static structural elements of the organization. However, in order to remove defects and causes of poor performance of the organization, in addition to the changes that are focused on structural elements of the organization, it is primarily needed to observe an organization as a network of business processes and on the basis of the process analysis through implementation of changes and improvement of business processes (Janićijević 2010, 305).

If the analysis of process organization structure is conducted in terms of organizational structure, it will be found that the business processes are the main structural element of this organizational structure. Business of the organization aligns with organizational goals and mission of the company. In addition, with simple standardized products, the process focused organization is switching to a flexible product that easily adapts to the needs of consumers and the employees are process-oriented to meet the needs of consumers.

By studying the structural elements of the process organizational structure it can be seen that it is based on process teams that provide job performance and a wider range of tasks. Managers/owners of the process are managing in decentralized way as mentors of their process teams, which gives this structure an organic dimension. Horizontal organization is shallower compared to the functional organization.

Furthermore, in process organizational structure performance of results and processes is being measured. Workflows are simplified and related and tend to process optimization. The technology is flexible and resources are shared, and thus avoid unnecessary conflict between organizational units. Control is carried out preventively, not only with a view to correcting mistakes, but also to reduce the variation.

Process organizational structure also makes changes in personnel questions. In fact, here is emphasis on linking skills and knowledge of all employees. Employees are willing to change and they do not see a threat, but a chance. They are no longer controlled, but steered and develop so that they can take more responsibility. Changes are made in a reward system and in the process approach it is based on the contribution to the organization.

"The horizontal approach requires the full responsibility of employees in a team, closely tracking the order of a superior / unit and the overall composition of a team in pursuit of adjusting the process parameters within the limits of tolerance of set objective function" (Zelenovic 2011, 249).

In process organizational structure information is carried horizontally throughout the organization because there are no organizational boundaries, and they are not obstacles to business. The result is a faster flow and distribution of information. Horizontal communication is one of the most important features of process orientation as it allows the implementation of effective changes (Oden 1999). Coordination of activities is crucial to the achievement of organizational goals, and in the process solution it is achieved by horizontal communication channels. All this certainly contributes to the understanding of the relationship with other organizational units. The most common form of communication is a supplier / consumer. Ostroff stressed the importance of information technology and its use in a process-oriented organization, because it makes the follow-up and execution of the process easier, simpler and faster (Ostroff 1999).

Companies that want to become process oriented should make appropriate changes in the managerial style. It is necessary to carry out fundamental changes in organizational culture by giving priority to teamwork and to consumers.

Below will be (Figure No. 1) graphically represented the transition from the current to the desired type of culture.

Figure 1: The transition from the current to the desired type of culture
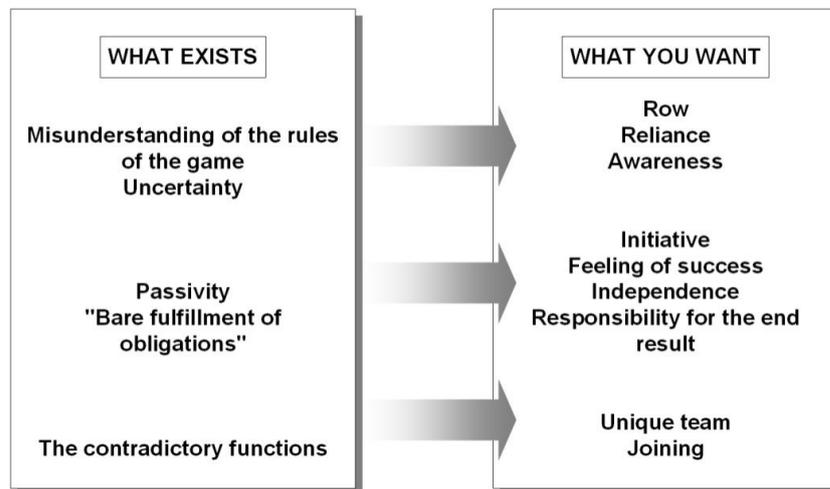
Source: Kravčenko and Mešalnik 2011

As shown (Figure No. 1), the basic features of the existing organizational culture, which is inherent in the functional organizational structure, are misunderstanding, uncertainty, passive fulfillment of obligations and contradictory functions. The result of the incorporation of a new organizational culture in the organization are established order, adequate information and confidence, employees gain, a sense of success, independence, responsibility and readiness to take initiative. Motivational changes need to move from dependent, lower forms of motivation, to the possibility of projecting individuality, development needs independent in their existence. The changes in the motivational profile are closely related to the value system, which is the basis for changing the organizational culture, which is one of the most important changes in the re-engineering (Ristic et al., 2007, 54). In addition, when it comes to changes in the organizational culture, it is especially necessary to note the role and importance of the association and the creation of a single team and process teams.

The implementation of process model leads to an increase in the quality of governance and economic efficiency of business operations in enterprises. Based on the above mentioned, it can be seen that the process control represents a system of organization of mutual interaction of elements of the organizational structure and strategy through the business processes of enterprises (Kravcenko and Mesalnik 2011).

## 3. CONCEPT AND MODELS FOR REVIEW OF PROCESS MATURITY

Due to the increasing popularity of the procedural paradigm, the concept of process maturity is also gaining in importance as it is the confirmation that the organization has adopted a process approach. It assumes that every business process has its life cycle, which is presented in the developmental stages. Gardner states that the concept of process maturity is very useful theoretical framework that contributes to the coordination of activities to improve the process for the following reasons (Gardner 2004, 61). It represents a good basis for comparison of the process, it is suitable for identifying the characteristics that are necessary to build a good process and it is also very convenient to recognize in various stages of process maturity which strategy is necessary to apply in order to achieve required process improvement.

By increasing the processing competence and consistency in the performance of business activities within the organization, a higher level of process maturity is achieved and by identifying policies, standards and organizational structure, the organization comes to the institutionalization of the process approach.

Due to the popularity of the concept, many models of process maturity are developed, and some of them will be presented below, with the aim to ease the way of top management of the companies that want to introduce process organizational structure for the transformation they must undergo during the transition from a functional to a process orientation.

B.Champlin developed the so-called. *Generic Process Maturity Model*, which is presented in six levels, and whose display is given in Figure No.2.

*Figure 2: A generic model of maturity*
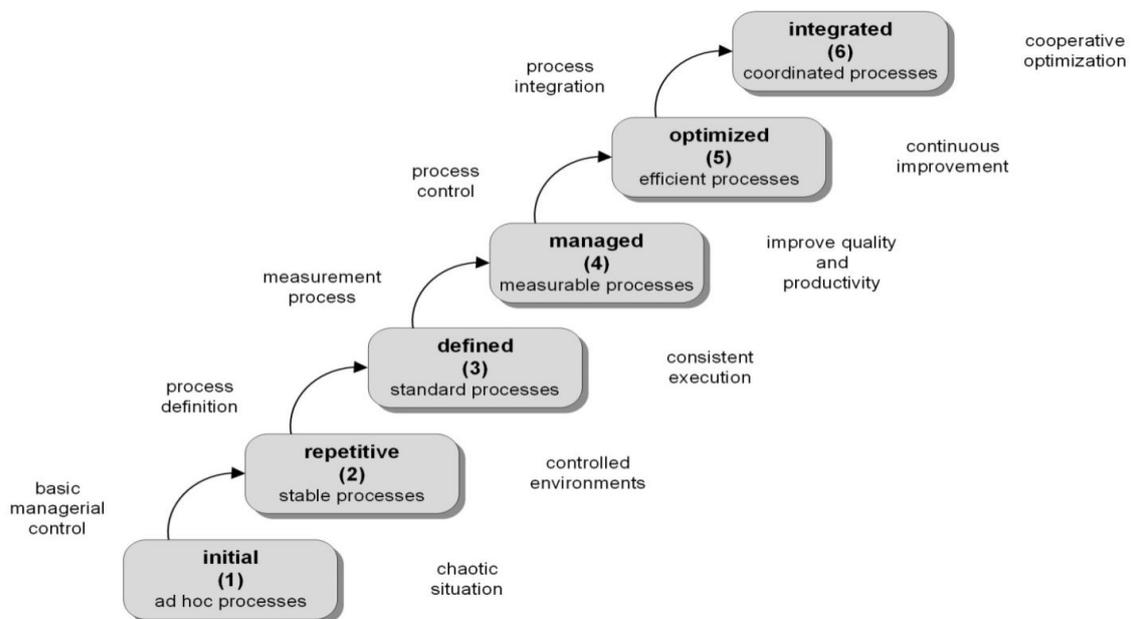
Source: Hernaus 2006

From the previous illustrative view we see that Champlins model consists of six levels of process maturity. The first level, which is called "initial" means that the process is ad hoc, with the "repetitive" level processes are stable, "defined" level means that processes are standard, with "managed" level processes are measurable, with "optimized" level processes are efficient, while at the last level, which is called "integrated" processes are coordinated. A generic model also provides an overview of needed techniques of process management to move from a lower to a higher category. As the necessary process management techniques he states the basic managerial control, defining processes, measurement of processes and so on. In addition, B.Champlin describes each level with the help of philosophy and culture that prevails in an organization that is at a certain level of development, so we have a chaotic situation, controlled environment, consistent execution, etc. (Hernaus 2006, 138).

A holistic model of maturity of business processes management (eng. QUT's BPM Maturity) was developed by M.Rosemann with associates. His illustration is given in Figure No.3.

Figure 3: A holistic model as a three-dimensional view of the introduction of process orientation
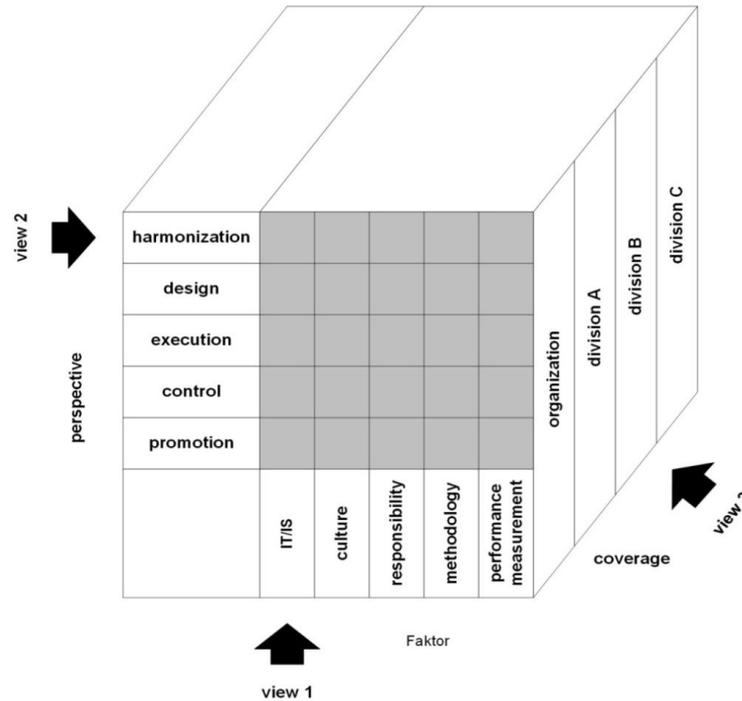

Source: Hernaus 2006

Holistic model has three dimensions and it is coordinated with more variables in order to determine the level of maturity (Harmon, 2005). In that way, this model includes multidimensional nature of process management. Great advantage of this model is reflected in the fact that it is applicable to the entire organization, the organizational unit, certain business process or to a specific project. The above is very important for companies that can perform the measurement and comparison of BPM maturity of different units, because it leads to the standardization of business processes in the organization (Hernaus, 2006, p.142).

BPO maturity model was developed by K.P. McCormack and W.C. Johnson based on detailed analysis of the ways and stages through which an organization goes on its way of development to achieve the process maturity. Illustration of this model is presented in Figure No.4.

Figure 4: BPO maturity model
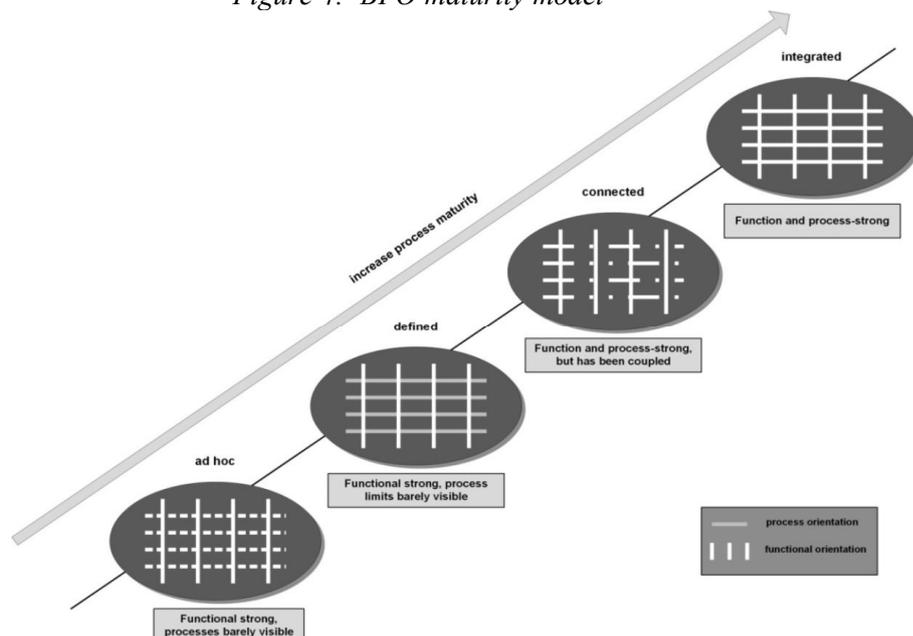
Source: Bosilj Vukšić at al. 2008

According to Bosilj Vuksic and other, the authors of BPO model define and thereby determine the appropriate numerical ranges of 0-5 for each phase that organization runs on its way to process maturity (Bosilj Vuksic et al. 2008, 107-108).

The range between the levels represent average values of every BPO maturity level, so for example, a 0-2 result is an ad hoc processes (1.5), then between 2-3 defined processes (2.5) and so on. As shown in the previous graphic display, there are four defined phases:

Ad Hoc processes - At this stage positions and organizational structure are based on the traditional functions. The processes are poorly defined and are not measured.

Defined processes - At this level of their development to the process organization, companies define their key business processes and make them process maps. Any change in these processes must go through formal procedures. The process aspect is present in terms of jobs and organizational structures, but basically it still retained the functional nature.

Related processing - Companies that are on this level of process maturity have broadly defined processing jobs and structures outside the traditional functions. Managers have a key role by introducing process management.

Integrated process - At this level the cooperation between companies, suppliers and consumers is at the process level. Now organizational structure and jobs are based on processes. Processes become equal or superior to traditional functions.

Based on the selected models of evaluation of process maturity we see that the path from the lowest to the highest levels of process maturity is rather consuming. The choice of an adequate model of process maturity should help enterprises ease the transition from the traditional way of the process method of organization and operations. When selecting a model to assess the level of process maturity of the company, they should be guided by the understanding and identifying the connection of process competence with organizational success rate. Thus, by using the selected model companies they should easily assess their current position, they will be clearer on what to focus their attention and activities, and it also provides them with the opportunity to choose an adequate strategy that needs to be implemented in order to reach a higher level of process maturity.

4. USING THE TOOLS IN THE PROCESS MANAGEMENT

Common to all models of process management is that every one of them is using the appropriate tools in all phases.

If you want to make a list of high-quality opportunities to solve, or a list of potential causes of opportunities or a list of possible solutions valued causes, it is recommended to use **brainstorming**. This instrument represents a group exercise that for a short period of time requires a large number of ideas that represent the opinions of the participants and the allocation of options which will certainly go beyond the necessary data. Brainstorming can be carried out in the structural or non-structural mode, in small or large groups (Figure 5).

Figure 5: Brainstorming

Brainstorming is done by establishing the group of 3-9 participants and at the same time subject matter experts are involved in the group including as well the participants who are not from that field. Each member of the group should have mitigating review of the processes that will be followed, but should be familiar with the rules of brainstorming and about the problem that needs to be solved. Within the five-minute limit, each participant should write down as many ideas as possible and after the expiration of the limited time they are read and in certain places duplicates are grouped, but without any discussion. The process continues until all participants have exhausted their ideas. It is important to follow the rules of brainstorming so that it tends to quantity, that it assumes that no idea is a bad one, that one should not discuss, criticize or condemn other people's ideas, that the construction on the basis of an idea is encouraged, and that the speed of the process is held (CAPT 2011, 100-101).

Fishbone diagram (Ishikawa diagram) is a graphical presentation by which the ideas are grouped into similar categories, so this diagram is very convenient to display the results of brainstorm activities. In applying this diagram, we assume that the causes of the problems are in manpower, methods, machines, materials or the environment. Fishbone diagram is presented in Figure No.6.

Figure 6: Fishbone diagram
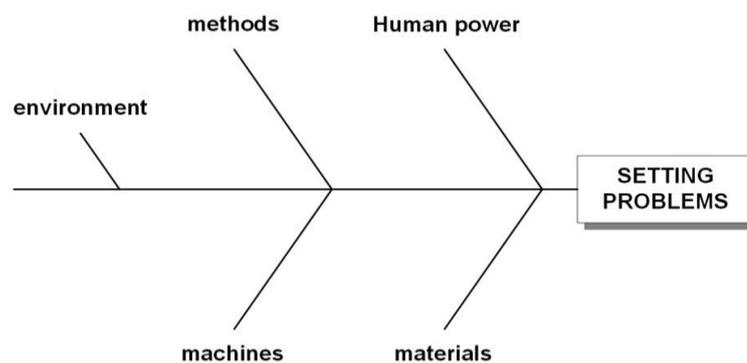
Source: CAPT 2011

The **flow chart** is used to graphically display the process or part of the process, so we are sure that everyone understands a thing in the same way, and that at any time we can make a check if they have any doubts. The shape of the diagram is used for certain issues or decisions. The boxes are used for the next step in the process, and the circles are used to connect parts of the flowchart that do not fit on the same page. Block diagrams represent an excellent framework for the analysis of the processes, because they are databases and tools that allow technicians to see where problems were encountered, so they can improve business (CAPT 2011, 102-103). Each organization can make their own diagram unique using a variety of symbols, and in continuation it won't give a concrete view of flowchart. Depending on your needs, flow charts for each major process, can have a detailed process of smaller operations, and sometimes it is simply assessed that the greater benefit is from less detailed diagrams.

Diagram of the trend is one kind of sets of information against time with the goal of testing trends. Its upside is that it is quick and easy to make, especially if it is not clear exactly what is required and how the different parameters are important. They show us (figure 7) the process changes over time, because they show us how certain process is changing from point to point. The following is the concrete representation how the trend chart can be used in the production of drinking water for the monitoring of the amount of chlorine that is already in processed drinking water, which is monitored by the hour throughout the day.

Figure 7: Diagram of the trend
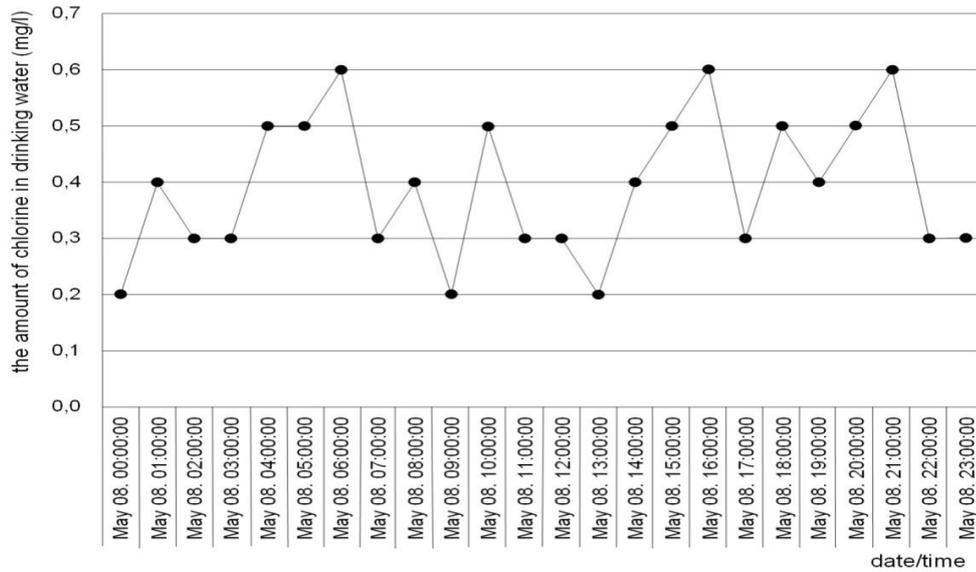
Source: customized according to CAPT 2011

Dotted diagram follows two parameters one against another. It can be defined as a graphical representation of two variables or parameters one against another, that allow us to (figure 8) get to the data on changing of one parameter compared to the other. The following provides an overview of the specific application of dotted diagram when monitoring processes for drinking water production where monitoring shows the total number of aerobic mesophilic bacteria and the concentration of residual chlorine in the water.

Figure 8: Dotted diagram
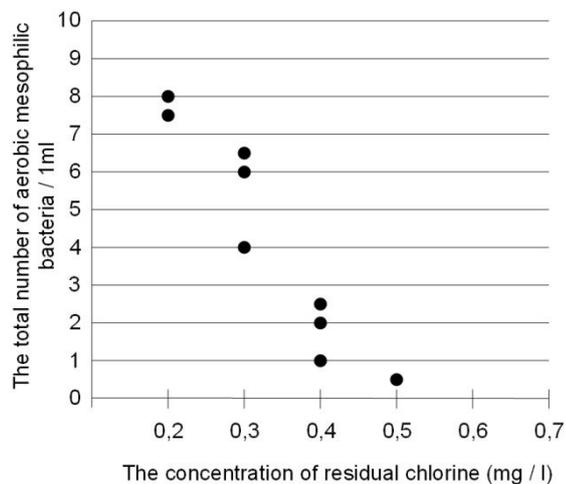
Source: (customized according to CAPT, 2011)

Pareto charts are used to describe the relationship between the problems and causes, and the goal is to discover the causes that cause 80% of our problems, because then we can approach to eliminate them and concentrate on the following problems. Pareto diagram (Figure 9) is a bar graph that shows the frequency of occurrence for each cause or category. The cumulative percentage curve has a scale on the right side and shows which categories should be grouped to achieve up to 80% of the features. Below is an overview of concrete application of the Pareto chart in managing the process of production of drinking water, where the following conditions that cause problems in this process include namely arsenic, iron, ammonia and other substances that need to rise to the target value.

Figure 9: Pareto charts
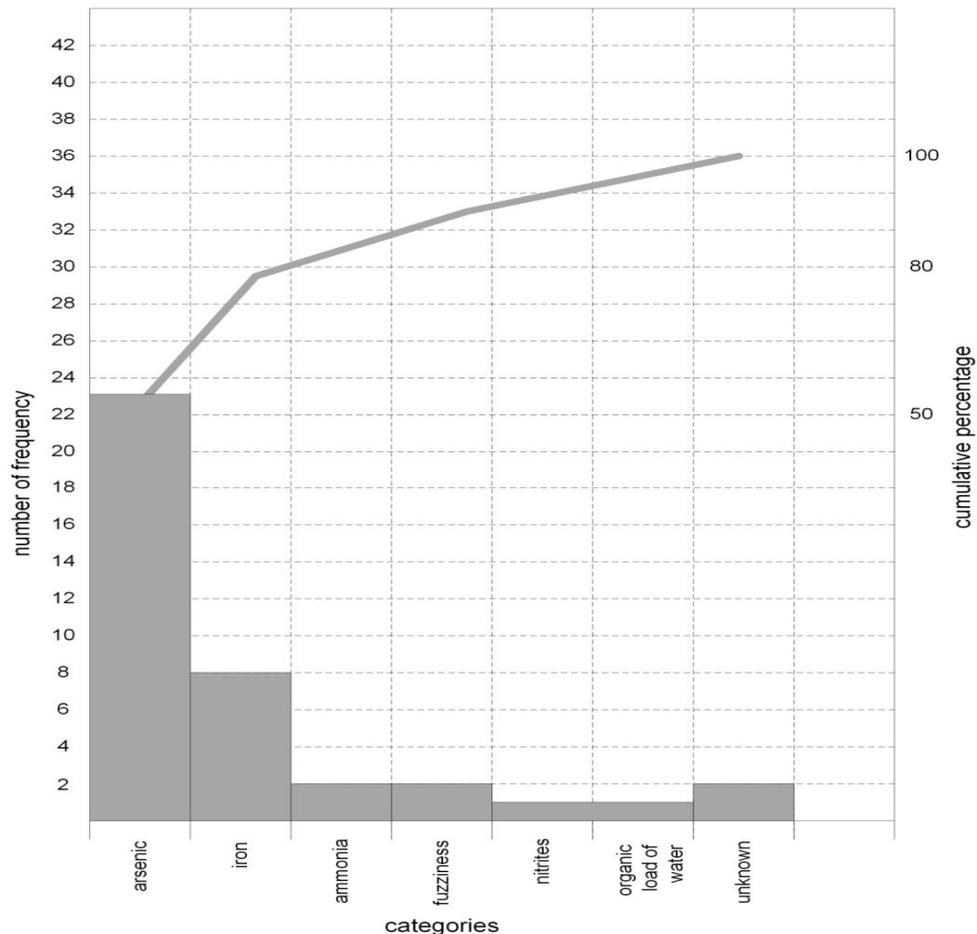
Source: customized according to CAPT 2011

From the foregoing, it can be concluded that there are various tools that are used to track the performance of certain processes. In order to manage business processes, it is necessary to monitor the deviation of actual performance of the planned, and if necessary take corrective action.

5. CONCLUSION

The concept of business process management can be successfully implemented in organizations only with serious, planned and organized approach. Achieving significant results in the implementation of the process approach is conditioned by the skills and competencies of the participants of different roles. A big problem is the fact that in many organizations a lack of culture of organizing teams is noticed; it is difficult for them to accept the change of the business rules and changes related to steps in the realization of process activities; processes are only visible within the business functions boundaries; risk analysis is based on experience, intuition and the managers data analysis in the organization. For that reason, and because of other perceived problems in adopting a process approach, one cannot deny the necessity of systematization of knowledge about business process management.

In order to successfully progress in the management of business processes, it is of great importance that the basic way of viewing things such as orientation directed to processes, customer satisfaction and continual improvement, does not just become empty phrases, but really become part of the organizational culture (Rentzhog 2000, 200).

In addition to pointing out the basic features and benefits of process-oriented organization, the paper presents and explains the concept of process maturity through the display of more models and process management tools, which provide an excellent theoretical framework to guide process improvement activities. It is very important that top managers, in companies that want to introduce

procedural organizational structure, adequately perform a comparison process, to know how to recognize the characteristics that are necessary to build a good process and it is also important to perform proper selection of the strategy that will lead to the improvement process.

The concept of business process management is applicable to all types of organizations, regardless of their activity, which further increases the ability and creates the need for further theoretical and empirical research.

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