



Process Management in Public Management of a Transition Country: Case Study of Bosnia and Herzegovina

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Abstract

Background: New methods, means and approaches for increasing the efficiency of public administration are constantly being discovered. This paper considers the possibility of applying a new form of organisation—known as the process organisation structure—in public administration. **Objectives:** The first aim is to conduct research on the extent to which work processes in public administration in Bosnia and Herzegovina are process oriented. The second aim of this paper is to measure the efficiency of public administration in Bosnia and Herzegovina. **Methods:** The research was conducted through a questionnaire survey and included all governmental levels in Bosnia and Herzegovina. The study involved 112 public organizations' managers in Bosnia and Herzegovina. **Results:** The first result is that the concept of business process organization has different values depending on the level of government. Another result is that the success of public organizations is different at different governmental levels in Bosnia and Herzegovina. **Conclusions:** This paper shows that the process-oriented management can be applied in public administration with the result of increasing the efficiency of organisations, thus increasing citizen satisfaction with public services. This paper should encourage managers and leaders to consider applying this model in the public sector, i.e. in public administration.

Keywords: public administration, organization structure, work processes, designing work processes, work efficiency, management of business processes

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Introduction

In developed countries, public administration must find new solutions and new approaches to fulfilling its role in society. New methods, means and approaches for increasing the efficiency of public administration are constantly being discovered. This paper considers the possibility

of applying a new form of organisation—known as process organisation structure—in public administration. According to Benazić (2009) “...the main goal of the process-oriented approach is to structure business processes and to place them within appropriate, flexible and adaptable organisation structures, while at the same time doing away with strong boundaries between various functions within the organisation, in order to better facilitate business processes.”

A number of academic works have been written on process organisation in general, as well as on contemporary organisations in highly developed countries. (Guha et al., 1993; Hall et al., 1993; Davenport, 1998; Hill et al., 1998; Burlton, 2001; McCormack et al., 2001; Hammer et al., 2004; Darf, 2004; Gardner, 2004; Hernaus, 2006; Bosilj Vukšić et. al., 2008; Zakić, 2009; Janičijević, 2011; Milanović Glavan, 2011, Hernaus et. al., 2011, Hernaus et. al., 2012, Bosilj Vukšić, et.al., 2012) However, these works rarely address the subject of process-oriented management in the public sector and they never mention the influence of process-oriented management on public administration. It would be wrong to conclude that the methods in use at process-oriented businesses—process-oriented management in particular—are not employed by administration organisations, or more specifically by public administration. On the contrary, in developed democratic countries, modern public administrations base their work in particular on, among other things, the general principles and laws of process-oriented management. If this were not the case, they would be unable to fulfil their obligations towards the public. It is important to keep in mind that organisations which base their business practices on process orientation achieve greater efficiency, speed and quality in their work. (Škrinjar et al., 2010; Hernaus et al., 2011). For this reason, states are expected to use scientifically tested methods and models to affect an increase in the quality, speed, efficiency and effectiveness of public administration, thus directly increasing the quality of public services. Given the state of affairs, there is a need to rationally investigate all the aspects of process-oriented management that could positively and directly influence the efficiency of public administration in Bosnia and Herzegovina.

With the aim of further developing Bosnian-Herzegovinian society and economy, so that they will be more competitive and ready to join the European Union, it is necessary to conduct research into whether and to what extent the concept of business process orientation has been accepted at public administration institutions and bodies in Bosnia and Herzegovina.

The aim of this paper is twofold. The first aim is to conduct research into the extent to which work processes in public administration in Bosnia and Herzegovina are process oriented, in other words whether job functions are harmonised with the work of the organisation as a whole. The results of this research will reveal to what extent public administration at all governmental levels in Bosnia and Herzegovina is process-oriented. The second aim of this paper is to measure the efficiency of public administration in Bosnia and Herzegovina. This, in turn, will help us determine the level of efficiency of public administration bodies in Bosnia and Herzegovina.

This paper consists of five sections. The first section discusses the need for our research, as well as its motivations and aims. The second section presents the theoretical foundations and gives an overview of the relevant literature on the subject. The third section sets forth the research model and hypotheses. The fourth section is concerned with research methodology and data analysis. Finally, the fifth section discusses the results of the research, the limitations of the research and offers suggestions for further research.

Literature review

In order to clarify the functioning of process-oriented organisation, this section of the paper offers definitions of business processes, the efficiency of an organisation, process-oriented management and demonstrates how the process orientation of organisations is measured. The word “process” comes from the Latin *processus*, which means “to go forward”. The popularity of the term has resulted in numerous definitions of business processes (Bosilj Vukšić et. al., 2008).

Hammer et al., (2004) define a business process as a collection of activities that creates one or more kinds of output that are of value to the customer. The individual tasks within the

process are important, but they are all worthless if the process as a whole does not function, i.e. if the process does not result in the desired output. The authors further note that, within the traditional division of labour, most business people do not consider the process; they focus on task completion, jobs, people, structures, but not on processes. In process-orientated management, one person processes the request from beginning to end. According to Kovačević (2004), common characteristics of process-oriented management include its ability to develop, use and maintain a repository of business processes. He defines a business process as a subset of business activities performed by the organization to achieve the goals for which it has been created.

Organisation design has to enable the efficient completion of stated organisation goals. "Efficiency" can be defined as "doing things the right way" and it is a key factor in an organisation's survival and success (Hodge et al., 2003). It is very difficult to measure the efficiency of organisations when it comes to public administration. "In public administration, efficiency means that the taxes paid by citizens and other subject are turned into high quality public services as effectively as possible" (Benazić, 2009).

In determining the efficiency of an organisation, emphasis is most often placed on three traditional approaches (Harmon, 2007), the management tradition, the quality control tradition and the IT tradition. As part of this framework, management traditionally emphasises strategy, corporate performance and business results. According to Harmon and Wolf (2008), research on the application of process-oriented management indicates that 40% of companies around the world see this process as a set of top-down principles and methodologies designed to organise, manage and measure the efficiency of the organisation based on the organisation's core processes. Hammer et al., (2004) note that in order to improve an organisation's efficiency, business processes have to be restructured. Their emphasis is on processes and not on the organisation's administrative segments. They are the creators of business process reengineering—a "fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical modern measures of performance, such as cost, quality, service, and speed" (Hammer et al., 2004).

Indihar Štemberger et al. (2009) point to the importance of process-oriented management in the past few decades. As an approach, process orientation exerts a strong and positive influence on efficiency (McCormack et al., 2001; Hernaus, 2006; Škrinjar et al., 2007; Škrinjar et al., 2008). The authors cite key texts on process-oriented management that suggest companies can improve the quality of their services and enhance their overall performance by employing process orientation. In their paper, Hernaus et al. (2011) note that process-oriented management appeared approximately ten years ago and that it is still a fledgling and under-researched area in academic circles. They also state that process-orientated management has numerous advantages: shorter processing time, rationalisation of spending, quality improvement and greater customer satisfaction. Škrinjar et al. (2010) cite research carried out at Slovenian and Croatian companies showing that companies employing process-oriented management to a greater extent shows higher levels of effectiveness than companies employing process-oriented management to a lesser extent. Kovačič (2004) notes that the increasingly complex environment demands that companies in the public sector employ process-oriented management. Process orientation of organisations is a newer concept in the design of organisation structures. The main goal of this orientation is to design business processes and place them within appropriate, flexible and adaptable organisation structures, while at the same time removing rigid boundaries between various functions within the organisation, in order to better facilitate business processes (Šikavica et al., 1999; Benazić, 2009).

Benazić (2009) cites seven principles of a horizontal, process-oriented organisation: (1) Organisation based on processes instead of tasks; (2) Levelling hierarchy; (3) Employing management teams; (4) Allowing clients to oversee work; (5) Awarding team work; (6) Maximising contact between the service provider and client; and (7) Instructing and training all employees.

Employing the six sigma concept is one way of developing and continually improving process-oriented management; it focuses on improving understanding of customer needs, analysing business processes and measuring key aspects, thus promoting excellence in the product and customer service (Bosilj Vukšić et al., 2006). Indihar Štemberger et al. (2009) cite

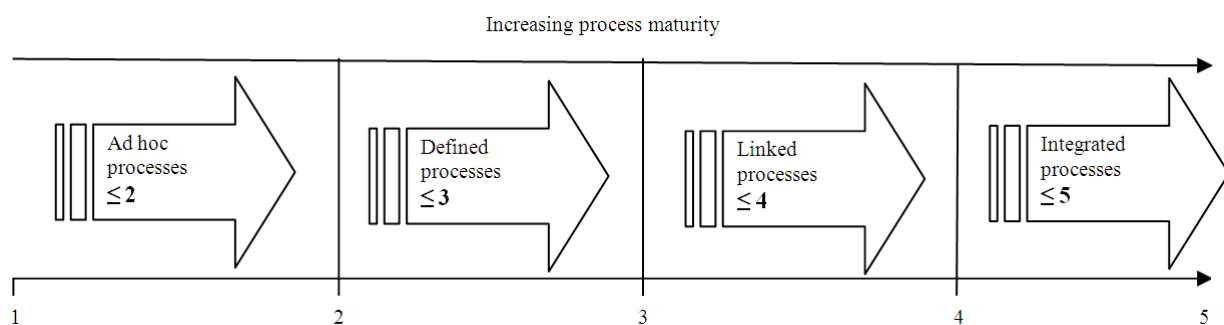
other methods for measuring and improving business processes, such as Total Quality Management, the EFQM model, as well as the use of business process management software, most prominently ARIS.

According to this new business philosophy, organisations should be organised in such a way as to allow information necessary for achieving the organisation's goals to travel both vertically and horizontally (Darf, 2004). Process orientation organisation has certain characteristics that set it apart from other forms of organisation (Sikavica et al., 1999). Process orientation is characterised by a horizontal structure that brings employees together around key processes and allows them easy mutual access thus ensuring communication and the coordination of their efforts in a way that virtually eliminates hierarchy and the boundaries between departments (Darf, 2004).

Analysing data collected from 1997 to 1999, McCormack et al. (2001) describe patterns and stages of development. Following a detailed analysis of these patterns and stages as quantified by the process orientation measuring instrument, they develop definitions and numeric ratings (1-5) for the stages that an organisation goes through on its way to process maturity (Bosilj Vukšić et al., 2008.).

Bosilj Vukšić et al. (2008) note four stages to process maturity: (1) *Ad hoc processes*. The processes are unstructured and ill defined. Process measures are not in place and the jobs and organizational structures are based upon the traditional functions. (2) *Defined processes*. The basic processes are defined and documented and are available in flow charts. Changes to these processes must go through a formal procedure. Jobs and organizational structures include a process aspect, but remain basically functional. Representatives from functions meet regularly to coordinate with each other, but only the representatives meet, not all employees. (3) *Linked processes*. Managers begin to employ process management with strategic intent and results. Broad process jobs and structures are put in place outside of traditional functions. (4) *Integrated processes*. The company, its vendors and suppliers, take cooperation to the process level. Organizational structures and jobs are based on processes, and traditional functions begin to be equal or sometimes subordinate to process. Process measures and management systems are deeply imbedded in the organization. Figure 1. shows the stages of BPO maturity and their index values.

Figure 1
BPO maturity model and its stages



Source: Authors' illustration, according to Bosilj Vukšić et al. (2008)

Following the theoretical discussion of the process organisation model in business organisations, the rest of the paper attempts to apply this model to public organisations. Business organisations aim to achieve a profit, while for public organisations making a profit is not a priority, instead they aim to achieve the social interest, i.e. to provide public services in order to satisfy the interests and needs of citizens. In order to efficiently apply the concept of process orientation to public organisations, it is necessary to distinguish between the primary and secondary activities of public organisations. Primary activities are those activities that an organisation undertake in order to satisfy the needs of its customers (for example, providing public services), while secondary activities refer to the activities necessary for the organisation to function. In order for the organisation to successfully carry out its primary activities, it has to

successfully carry out its secondary activities. One of the ways to achieve this is employing the concept of process-oriented organisation.

Although the process organisation model has been adapted to fit the needs of organisations active in the private sector (McCormack et al., 2001; Hernaus, 2006), in this paper we will attempt to adapt this concept to activities of public organisations.

Methodology

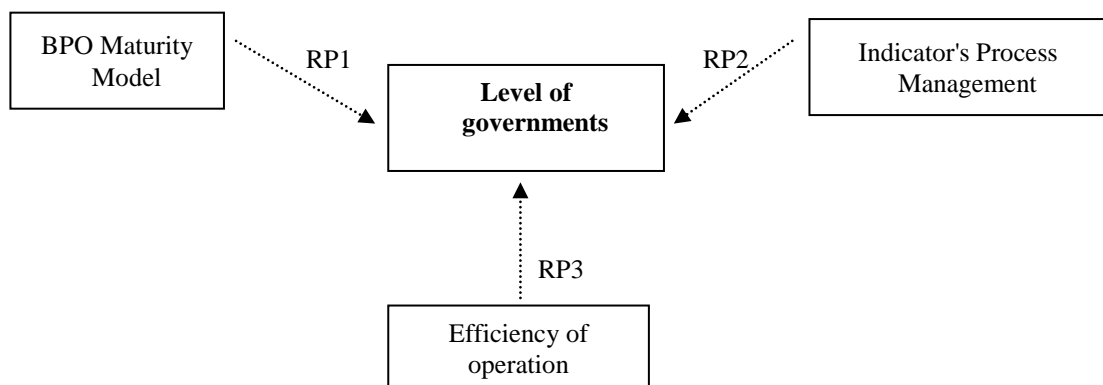
Research model

Research of the business process orientation in public administration in Bosnia and Herzegovina is based on the process orientation research model, developed by McCormack et al. (2001), Hernaus (2006), Bosilj Vukšić et al. (2008) and Škrinjar et al. (2010).

The foundation for this research lies, first and foremost, in the advances introduced by McCormack et al., (2001), whose work develops the process orientation maturity model in business organizations. In creating the aforementioned model, the authors define process maturity as the stages through which an organisation must pass through in increasing its process orientation, ultimately realizing an end goal of being fully process integrated. In the period from 1997 to 1999, on the basis of research, McCormack developed a tool for measuring process orientation, which allows for a quantitative calculation of the level or stage in which the organization finds itself on the path to becoming process oriented.

Benazić (2009) claims that process organization structure can be applied in public administration. The utilization of the process organisation structure concept in government administration has several advantages. This approach can significantly improve the flexibility of organizations—an increasingly necessary factor within public organizations. One of the characteristics of this approach is that it is oriented towards the customer or patron, thus increasing customer satisfaction. In this paper, we aim to look for empirical proof of the aforementioned claims. Using the aforementioned research model and statements, we have established three hypotheses for this paper. Figure 2 shows the research model and research hypotheses.

Figure 2
Research model and hypotheses



Source: Authors' illustration

The first research proposition (RP1) proposes that organizations at various levels of government in Bosnia and Herzegovina are at different process maturity stages. In other words, we presume that there is a statistically significant difference in process maturity at different levels of government in Bosnia and Herzegovina.

The second research proposition (RP2) proposes that process management will be present in varying degrees at different levels of government in Bosnia and Herzegovina. In other words, we presume that there is a statistically significant difference in the presence of process management at different levels of government in Bosnia and Herzegovina.

The third research proposition (RP3) proposes public administration will have a varying degree of efficiency at different levels of government in Bosnia and Herzegovina. In other words, we presume that there is a statistically significant difference in the efficiency of public administration at different levels of government in Bosnia and Herzegovina.

Research variables

On the basis of the contributions by authors McCormack et al., (2001), Hernaus (2006), Bosilj Vukšić et al. (2008) and Škrinjar, et al. (2010), a six-part research model has been developed: (i) Work processes (WP); (ii) Process jobs (PJ); (iii) Management and measurement process (MMP); (iv) Conflict between parts of the organization (CPO); (v) Cooperation between parts of the organization (CON); and (vi) Efficiency of operation (EO).

Model items are presented in Table 1. For the purposes of this paper, we have defined three sets of research variables: (1) process orientation, (2) efficiency of operation (EO), and (3) level of government of the organisation (municipalities, cantons, entities, Brčko District, state).

The process orientation maturity level is determined on the basis of the mean value of five components: work processes (WP), process jobs (PJ), management and measurement process (MMP), conflict between parts of the organization (CPO) and cooperation between parts of the organization (CON). The indicators of process management are evaluated on the basis of the following components: WP, PJ, MMP, CPO and CON. (Model items are presented in Table 1)

The success of public administration is evaluated on the basis of the efficiency of operation (EO), which itself consists of 13 components.

In order to test first research propositions (RP1), we use the mean value of the dependent variables WP, PJ, MMP, CPO and CON and the independent variable of the level of government in B&H (Levels of government).

Process orientation and efficiency of operation

Starting in the mid-1990s, many successful companies have begun to focus on business processes, i.e. they have started to employ process orientation. Hernaus (2006) cites the benefits of accepting process philosophy for *Texas Instruments* and *IBM*. *Texas Instruments* has decreased product launch time by 50%, while *IBM* has decreased launch time by 75%, bringing in approximately 9 billion dollars in savings.

As an approach, process orientation exerts a strong and positive influence on efficiency (McCormack et al., 2001; Škrinjar et al., 2007; Škrinjar et al., 2008; Milanović Glavan, 2011; Hernaus et al., 2012).

In his research, which aimed to analyse business process management in Croatian companies, Hernaus (2006) came to the conclusion that process orientation influences organisation performance, even improving it.

McCormack et al. (2001) defined process maturity as four stages through which an organisation progresses in becoming business process oriented: 1) ad hoc processes, 2) defined processes, 3) linked processes and 4) integrated processes. On the basis of research carried out in the period from 1997 to 1999, they developed a measuring instrument for process orientation that allows for quantitative calculation of the phase or stage that an organisation finds itself in. This is considered to be the most important methodology for calculating an organisation's process orientation. On the basis of this methodology, we evaluated a set of variables relating to the process orientation of public administration in Bosnia and Herzegovina.

Table 1

Operationalization of the research constructs (according to: Bosilj Vukšić, *et. al.*, 2008)

Construct		Code	Item
Business process orientation (BPO)	Work processes	WP1	An employee looks at the organization as a chain of linked processes
		WP2	The organization often uses terms such as: the process, the input process (input), the output process (output, outcome) and project coordinator
		WP3	Processes in the organization are defined and documented with clearly defined inputs / outputs for our employees and citizens as service users
		WP4	Most employees understand how to place work processes
		WP5	Informatization of work is based on processes.
	Process jobs	PJ1	Positions require a greater number of complex operations
		PJ2	Employees can independently solve problems in the workplace
		PJ3	Due to changing processes in the organization, employees must continually learn
	Management and measurement process	MMP1	The organization is measured by the efficiency of business process (time, cost)
		MMP2	Efficiency measurements of processes are defined
		MMP3	Organizational resources are allocated depending on the process
		MMP4	Specific targets are set for individual measures of process efficiency
		MMP5	The organization is measured by the quality of outputs (results) of the process
		MMP6	On-line quality control of data has been established for processes.
		MMP7	The flow of information throughout the process was smooth and efficient (i.e. it is not necessary to enter the same data)
	Conflict between parts of the organization	CPO1	Most departments in the organization cooperate well with each other
		CPO2	Encounters between employees from different department often lead to anxiety and tension
		CPO3	Employees from one department do not like to work with employees from another departments
		CPO4	Employees from different departments believe that the goals of all departments work together
		CPO5	Protection of "field" department is a normal occurrence in organizational unit
		CPO6	The goal of public relations are not compatible with the objectives of the department to provide services to citizens
		CPO7	Conflict between departments are rare or lacking entirely
	Cooperation between parts of the organization	CON1	In our organization, it is easy to talk to everyone, regardless of their position and function
		CON2	There are numerous opportunities for informal discussion among the employees of various departments
		CON3	Employees from different departments, as needed, without embarrassment, invite each other to help each other
		CON4	Managers discourage employees from discussing matters with anyone who is not directly subordinate or superior to them
		CON5	Employees in our department are always available to colleagues in other departments
		CON6	It is expected that all communication between departments takes official / specified channels
		CON7	Young managers from one department can easily arrange a meeting with young leaders from other departments
Efficiency of operation (EO)		EO1	Relations with citizen service users are good
		EO2	In our organization there are no examples of departure because of dissatisfaction with salary, opportunities for advancement, relationships at work, etc.
		EO3	The productivity of employees is much higher than in the average organization
		EO4	The staff's trust in the administration is high
		EO5	Mutual trust of employees is very high
		EO6	The organization of employees is very efficient
		EO7	Membership in employee organizations is at a high level
		EO8	Labour costs per employee are much lower than in many other organizations
		EO9	Absence from work in our organization is very low
		EO10	Employee satisfaction is very high
		EO11	The staff's ability to learn and adapt is great
		EO12	The number of complaints concerning our work declined in the past year
		EO13	The reputation of our organization with citizens has improved greatly

Škerlavaja et al. (2004) have developed a model for measuring the efficiency of operation using (mutually opposing) statements. The model consists of 19 questions. The questions are answered by circling a value that is closest to one of the two opposing statements. On the basis of this model, which we adapted for our purposes, we evaluated the second variable in our paper—the efficiency of operation (EO) of public administration. The first two variables are taken from research carried out by McCormack & Johnson (2001), Hernaus (2006), Bosilj Vukšić et al. (2008). These variables have been adopted with minor modifications for the purposes of this research. Table 4. shows the operationalization of the research constructs.

In order to test research proposition (RP2), we use the dependent variables WP, PJ, MMP, CPO and CON and the independent variable of the level of government in B&H (Levels of government).

Governmental levels in Bosnia and Herzegovina

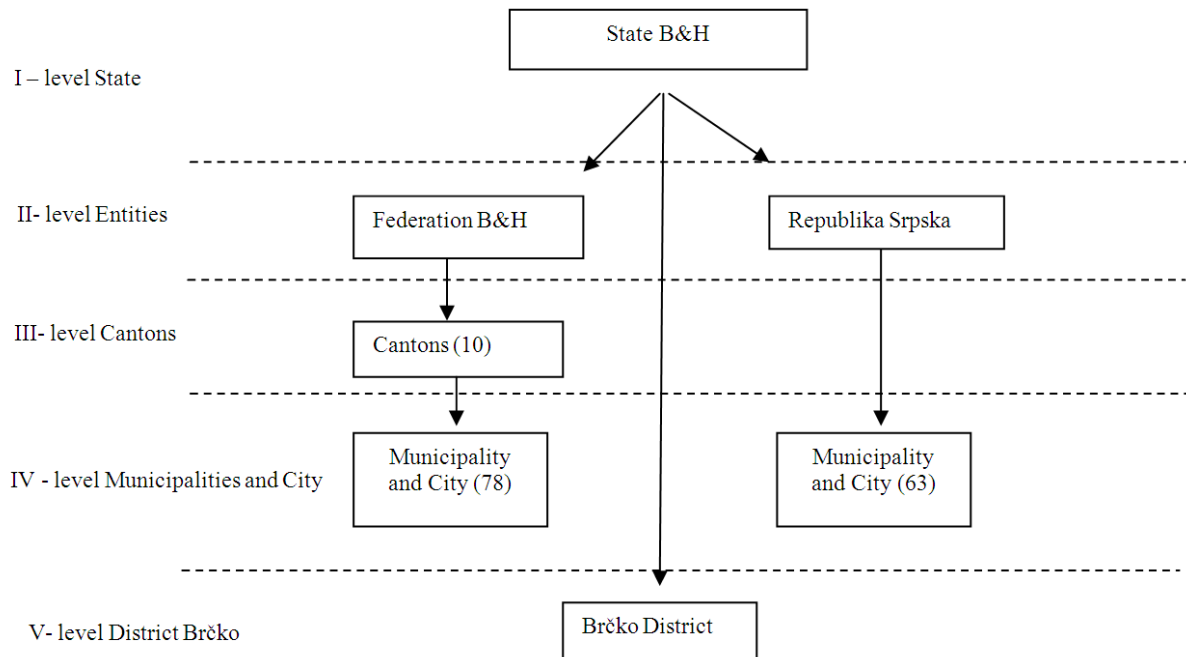
The third variable in this paper is the level of government that the organization belongs to. This variable is established based on the constitutional, legal and political system of Bosnia and Herzegovina. The Dayton Peace Agreement (1995) defines the political organisation of Bosnia and Herzegovina (Ibrahimagić, 2009). The Constitution of Bosnia and Herzegovina (Annex IV of the Dayton Peace Agreement) and the Arbitration Agreement on the Brčko District set up five levels of government: municipalities, cantons, entities, Brčko District and the state (Pejanović, 2012; Pejanović et al., 2010).

Bosnia and Herzegovina was one of six republics of the former Yugoslavia until 1992. A referendum was held in Bosnia and Herzegovina on 29 February and 1 March 1992 where 64.31% of the population voted for "... sovereign and independent Bosnia and Herzegovina, a state of equal citizens, and peoples of Bosnia and Herzegovina - Muslims (Bosniaks), Serbs, Croats, and all other peoples who live in it. " The international community recognized Bosnia and Herzegovina in April 1992. Bosniaks, Croats, and a small number of Serbs turned out for the referendum and voted for a sovereign and independent Bosnia, while Serbs led by the Serb Democratic Party (SDS) and the Serb Renewal Movement (SPO) boycotted the referendum. SDS and SPO did not accept the results of the referendum and the political solution to the status of Bosnia and Herzegovina. These two parties were campaigning for political goals, such as staying part of Milošević's Yugoslavia or ethnic division. SDS and SPO decided to use military force to achieve their political goals. They opted for war and aggression, with political support and assistance from the regime and the former Yugoslav National Army. The goal of the war was the annexation of Bosnia and Herzegovina or its largest part to Yugoslavia.

On 9 January 1992, the Serb Republic of Bosnia and Herzegovina was proclaimed on the territories cleansed of Bosniaks and Croats. Federation of Bosnia and Herzegovina was formed by the Washington Peace Accords on 30 March 1994 signed by the Bosniak and Croatian leadership. The war was ended by the signing of the Framework Agreement for Peace in Bosnia and Herzegovina in 1995 in Dayton. The Dayton Agreement retained the idea of a sovereign and independent development and international-legal subjectivity of the State, but established a new concept of the constitutional and political system. According to this concept, Bosnia and Herzegovina consists of two entities: the Federation and Republika Srpska.

The Federation is further divided into ten cantons. With two entities, B&H also includes the Brčko District, which is an administrative unit under the sovereignty of the state of B&H. Legislative competence resides with the Parliament of Bosnia and Herzegovina, the Federation Parliament, the National Assembly of Republika Srpska, ten cantonal assemblies, 139 municipal councils and four city councils. Executive power resides with the Presidency of Bosnia and Herzegovina, the Council of Ministers, the President of the Federation, the Government of the Federation, the President of Republika Srpska, the Government of Republika Srpska, ten cantonal governments of the Federation and 143 mayors. Figure 3 provides a chart of governmental levels in Bosnia and Herzegovina.

Figure 3
Governmental levels in B&H



Source: Authors' illustration

In order to test third research proposition (RP3), we use the dependent variable EO and the independent variable of the level of government in B&H (Governmental levels).

Survey questionnaire and research sample

The empirical section of the paper—dealing with research into process orientation—aims to describe practice relating to processes in public administration in Bosnia and Herzegovina. To this end, a survey questionnaire consisting of three main parts was created. The first part of the questionnaire consists of 29 questions grouped into five categories. The first three categories (process view, jobs, management and process measurement) were adopted, with minor modifications, from the questionnaire used by McCormack et al. (2001). The fourth and fifth categories (conflict between parts of the organisation and cooperation between parts of the organisation) were adopted from research into market orientation by Kohli and Jaworski (Hernaus, 2006). The second part of the questionnaire consists of 13 questions concerning the efficiency of operation as defined by Škerlavaj & Divovski (Hernaus, 2006). The third part of the questionnaire consists of questions about the level of government that the organisation belongs to, the size of the organisation and the budget.

The research collected primary data from a sample of organisations that make up public administration in Bosnia and Herzegovina. The sample was chosen at random and 112 questionnaires were completed. It is estimated that there are approximately 307 organisations or institutions making up public administration in Bosnia and Herzegovina. The sample accounts for 36.48% of public administration institutions in Bosnia and Herzegovina, which can be considered a representative sample of the total population.

The stratified sampling method was used. The criterion for stratification was the level of government that the institution belongs to. The sample consists of the following strata: the municipality level, institutions from the cantonal level of government, entity institutions, institutions belonging to the Brčko District and institutions belonging to the state level of government in Bosnia and Herzegovina.

Respondents included heads of municipalities, mayors, ministers, premiers, heads of departments, i.e. the highest-ranking members of the organisation's management or top managers. Therefore, the sample unit, as well as the analysis unit, were the organisation

(municipality, cantonal ministry, entity ministry, Brčko District and ministry of B&H), while the respondents were managers (head of municipality, mayor, minister, premier, head of department in Brčko District).

The data was collected using a computer program (www.surveyconsole.com). The survey was carried out from 15 October to 31 December 2011, with a sample consisting of 112 public administration institutions and organisations. The survey questionnaire consisted of three sets of questions: the first set addressed the process view of public administration in Bosnia and Herzegovina, the second set addressed the efficiency of operation of public administration in Bosnia and Herzegovina, and the third set looked at the characteristics of the organisations and respondents. The instrument for collecting data was a survey questionnaire that consisted of 47 questions relating to the process approach (29 questions), efficiency of operation of the organisation (19 questions) and unrelated characteristics of the organisation and respondents (4 questions). The answers were measured using a Likert scale ranging from 1 to 5 (1 = strongly disagree, 5 = strongly agree).

Characteristics of the sample

Table 2 shows that the majority of the sample consists of organisations at the municipal level (61.61%). This is understandable considering that the majority of public administration organisations are municipalities, or more precisely municipality administrations (there is a total of 141 municipalities). The middle level of government (cantons and entities) is represented by approximately a quarter of the organisations (23.22%). The state level of government (state institutions and Brčko District) is represented in the sample by 17 organisations (15.17%).

Table 2
Governmental levels

<i>Level of government</i>	<i>Frequency</i>	<i>Structure in %</i>
Municipalities	69	61,61
Cantons	10	8,93
Entities	16	14,29
Brčko District	5	4,46
State	12	10,71
Total	112	100,0

Source: Authors' own research

Table 3 shows that the majority of organisations (70.54%) have less than 100 employees, while almost a quarter of the organisations (24.11%) have between 100 and 249 employees. Only two organisations (1.79%) have more than 1000 employees.

Table 3
Size of participating organisations - number of employees

<i>Number of employees</i>	<i>Frequency</i>	<i>Structure in %</i>
less than 50	34	30,36
51-99	45	40,18
100- 249	27	24,11
250-499	3	2,68
500-999	1	0,89
1000 and more	2	1,79
Total	112	100,0

Source: Authors' own research

Results

Process maturity at different governmental levels in Bosnia and Herzegovina

Process maturity at various governmental levels in Bosnia and Herzegovina was assessed by the respondents based on their degree of agreement with statements from Table 1. The

respondents were given the Likert scale of 1-5 where 1 = do not agree, and 5 = completely agree.

Table 4 shows the mean assessments for all process maturity indicators at various governmental levels in Bosnia and Herzegovina arrived at through an analysis of descriptive statistics, and later values for each indicator will be shown and analysed by area.

The highest level of process maturity can be found in Brčko District (3.62), followed by the state institutions of government (3.5), the cantonal institutions (3.46), the municipal institutions (3.34), with the entities exhibiting the lowest level of process maturity (3.1). The level of process orientation in public administration in Bosnia and Herzegovina has the value of BPO=3.36. On the basis of the BPO maturity model and its stages, we can see that public administration in Bosnia and Herzegovina is between the second and third stage of process orientation, i.e. between the "defined" and "linked" stages.

Table 4
Business Process Orientation (BPO) by governmental levels

BPO levels	Municipality and City		Canton		Entity		Brčko District		State		All organisations	
	Mean	St.Dev	Mean	St.Dev	Mean	St.Dev	Mean	St.Dev	Mean	St.Dev	Mean	St.Dev
WP	3,6	0,90	3,4	0,85	3,3	1,70	4	0,71	3,5	0,81	3,5	0,99
PJ	3,8	0,82	3,8	0,51	3,6	0,77	4	0,8	3,6	0,84	3,7	0,74
MMP	3	1,03	3,1	1,2	2,8	1,11	3,5	0,7	3,2	1,09	3,1	10,2
CPO	2,8	0,94	3,1	0,86	2,6	1,19	3,1	1,19	3,5	1,07	3	1,05
CON	3,5	0,92	3,9	0,81	3,2	1,15	3,5	0,99	3,7	0,84	3,5	0,94
BPO	3,34	0,92	3,46	0,84	3,1	1,18	3,62	0,87	3,5	0,93	3,36	2,78

Notes: WP – Work Processes, PJ – Process jobs, MMP – management and measurement process, CPO – Conflict between parts of the organization, CON – Cooperation between parts of the organization

Source: Authors' own research

Process management indicators by governmental levels in Bosnia and Herzegovina

Table 5 shows the mean work process indicator values at governmental levels in Bosnia and Herzegovina, including the mean value and standard deviation for each item. The highest mean assessment value for all work process indicators is found in the Brčko District (mean = 4.00) and municipalities and cities (mean = 3.6), while the lowest mean assessment values for all indicators is found in the Entities (mean = 3.3) and Cantons (mean = 3.4).

Table 5
Work process indicators by governmental levels

Work process indicator	Municipality and City		Canton		Entity		Brčko District		State		All organisations	
	Mean	St.Dev	Mean	St.Dev	Mean	St.Dev	Mean	St.Dev	Mean	St.Dev	Mean	St.Dev
WP1	3,7	0,77	3,2	0,97	3,3	1,4	4	0,81	3	0,66	3,4	0,92
WP2	3,4	0,91	2,5	1,13	2,9	1,18	4	0,81	3,6	0,84	3,2	0,97
WP3	3,7	1	4	0,86	3,5	0,96	4,2	0,95	3,6	0,69	3,8	0,89
WP4	3,4	0,94	3,8	0,60	3,5	1,21	3,7	0,50	3,6	0,96	3,6	0,84
WP5	3,8	0,92	3,6	0,70	3,7	3,75	4,2	0,50	3,7	0,94	3,8	1,36
WP	3,6	0,90	3,4	0,85	3,3	1,70	4	0,71	3,5	0,81	3,5	0,99

Notes: WP1 – An employee looks at the organization as a chain of linked processes, WP2 – The organization often uses terms such as: the process, the input process (input), the output process (output, outcome) and project coordinator, WP3 – Process in the organization are defined and documented with clearly defined inputs/outputs for our employees and citizens as service users, WP4 – Most employees understand how to place work processes, WP5 – Informatization of work is based on processes

Source: Authors' own research

Table 6 shows the mean value of process jobs indicators by governmental levels in Bosnia and Herzegovina, i.e. the mean value and standard deviation for each item. The best mean assessment of all process jobs indicators is found in the Brčko District (mean=4.00), while the

lowest mean assessment of all indicators are found at the Entity level of government (mean=3.6) and the state level of government (mean=3.6).

Table 6

Process jobs indicators by government levels

Process jobs indicators	Municipality and City		Canton		Entity		Brčko District		State		All organisations	
	Mean	St.Dev	Mean	St.Dev	Mean	St.Dev	Mean	St.Dev	Mean	St.Dev	Mean	St.Dev
PJ1	3,8	0,81	3,8	0,60	4,1	0,65	4,2	0,50	3,9	0,73	3,9	0,65
PJ2	3,5	0,91	3,8	0,33	2,8	0,88	3,7	0,95	3,4	1,17	3,4	0,84
PJ3	4,1	0,75	3,8	0,60	4,1	0,80	4,2	0,95	3,5	0,63	3,9	0,74
PJ	3,8	0,82	3,8	0,51	3,6	0,77	4,0	0,8	3,6	0,84	3,7	0,74

Note: PJ1- Positions require a greater number of complex operations, PJ2- Employees can independently solve problems in the workplace, PJ3 - Due to changing processes in the organization, employees must continually learn

Source: Authors' own research

Table 7 shows the mean value of management and measurement process by governmental levels in Bosnia and Herzegovina i.e. the mean value and standard deviation for each item. The highest mean value for all management and measurement process indicators is found in the Brčko District (mean = 3.5), while the lowest mean value for all indicators is found at the Entity level of government (mean = 2.8).

Table 7

Management and measurement process by governmental levels

Management and measurement process	Municipality and City		Canton		Entity		Brčko District		State		All organisations	
	Mean	St.Dev	Mean	St.Dev	Mean	St.Dev	Mean	St.Dev	Mean	St.Dev	Mean	St.Dev
MMP1	3,0	1,05	2,8	1,16	2,8	1,08	3,5	0,57	3,5	1,08	3,1	0,98
MMP2	2,9	1,02	3	1,11	2,9	1,28	4	0,81	3,3	1,05	3,2	1,05
MMP3	3,1	0,98	3,3	1,11	2,6	1,07	4,5	0,57	3,6	0,96	3,4	0,93
MMP4	3,0	0,94	3,4	1,23	2,8	0,95	4,2	0,50	3,5	1,08	3,3	0,94
MMP5	3,0	1,07	3,3	1,32	3,1	1,22	3,2	0,50	3,2	1,13	3,1	1,04
MMP6	2,9	1,09	2,3	1,11	2,5	1,09	2,7	0,50	3	1,24	2,6	1,00
MMP7	3,3	1,08	3,6	1,41	2,9	1,12	2,7	1,50	2,9	1,10	3	1,24
MMP	3	1,03	3,1	1,2	2,8	1,11	3,5	0,7	3,2	1,09	3,1	1,02

Notes: MMP1 - The organization is measured by the efficiency of business processes (time, cost ...), MMP2 - Efficiency measurements of processes are defined, MMP3 - Organizational resources are allocated depending on the process, MMP4 - Specific targets are set for individual measures of process efficiency, MMP5 - The organization is measured by the quality of outputs (results) of the process, MMP6 - On-line quality control of data has been established for processes, MMP7 - The flow of information throughout the process was smooth and efficient (i.e. it is not necessary to enter the same data)

Source: Authors' own research

Table 8 shows the mean value of indicators for conflict between parts of the organization by the level of government in Bosnia and Herzegovina, i.e. the mean value and standard deviation for each item. The highest mean value for all indicators of conflict between parts of the organization is found at the state level of government (mean = 3.5), while the lowest mean assessment of all indicators is found at the Entity level of government (mean = 2.6).

Table 8

Conflict between parts of the organization by the governmental levels

Conflict between parts of the organization	Municipality and City		Canton		Entity		Brčko District		State		All organisations	
	Mean	St.Dev	Mean	St.Dev	Mean	St.Dev	Mean	St.Dev	Mean	St.Dev	Mean	St.Dev
CPO1	3,6	0,88	4,3	1,1	3,2	1,32	4	0,81	3,9	0,56	3,8	0,93
CPO2	2,2	0,98	2,5	0,82	2	0,88	3,5	1,73	3,3	1,33	2,7	1,14
CPO3	2,2	0,93	2	0,50	2,4	1,12	3,5	1,73	3,2	1,13	2,6	1,08
CPO4	3,2	0,84	3,8	0,92	2,9	1,43	3,2	0,50	3,6	0,96	3,3	0,93
CPO5	3,0	0,88	3,4	0,72	2,4	1,06	2	0,81	4	1,33	2,9	0,96
CPO6	2,7	1,12	2,5	1,13	2,9	1,22	2,5	1,29	3,1	1,28	2,7	1,2
CPO7	3,3	1,01	3,4	0,88	3	1,34	3,2	1,50	3,4	0,96	3,2	1,13
CPO	2,8	0,94	3,1	0,86	2,6	1,19	3,1	1,19	3,5	1,07	3	1,05

Note: CPO1 - Most departments in the organization cooperate well with each other, CPO2 - Encounters between employees from different department often lead to anxiety and tension, CPO3 - Employees from one department do not like to work with employees from another departments, CPO4 - Employees from different departments believe that the goals of all departments work together, CPO5 - Protection of "field" department is a normal occurrence in each organizational unit, CPO6 - The goal of public relations are not compatible with the objectives of the department to provide services to citizens, CPO7 - Conflict between departments are rare or lacking entirely

Source: Authors' own research

Table 9 shows the mean value of indicators for Cooperation between parts of the organizations by level of government in Bosnia and Herzegovina, i.e. the mean value and standard deviation for each item. The highest mean value for all indicators of cooperation between parts of the organizations is found at the cantonal level of government (mean = 3.9) and the state level of government (mean = 3.7), while the lowest mean assessment of all indicators is found at the Entity level of government (mean = 3.2).

Table 9

Cooperation between parts of the organizations by governmental levels

Cooperation between parts of the organizations	Municipality and City		Canton		Entity		Brčko District		State		All organisations	
	Mean	St.Dev	Mean	St.Dev	Mean	St.Dev	Mean	St.De.	Mean	St.Dev	Mean	St.Dev
CON1	3,71	0,78	4,5	0,52	3,2	1,33	3	1,63	3,4	0,51	3,5	0,95
CON2	3,81	0,74	4,3	0,86	3,4	1,35	3,5	1,00	3,8	0,42	3,7	0,87
CON3	3,61	0,93	3,8	0,78	3,2	1,28	3,5	0,57	4,1	0,56	3,6	0,82
CON4	2,59	1,17	3,3	1,11	2,4	1,05	2,7	1,50	3,9	1,19	1,9	1,2
CON5	3,97	0,96	4,1	1,05	3,6	1,11	4	0,81	3,8	0,91	3,8	0,96
CON6	3,14	1,01	4	0,50	3,3	0,81	4,2	0,95	3,7	1,16	3,6	0,88
CON7	3,89	0,86	3,5	0,88	3,4	1,12	4,2	0,50	3,8	1,13	3,7	0,89
CON	3,5	0,92	3,9	0,81	3,2	1,15	3,5	0,99	3,7	0,84	3,5	0,94

Notes: CON1 - In our organization, it is easy to talk to everyone, regardless of their position and function, CON2 - There are numerous opportunities for informal discussion among the employees of various departments, CON3 - Employees from different departments, as needed, without embarrassment, invite each other to help each other, CON4 - Managers discourage employees from discussing matters with anyone who is not directly subordinate or superior to them, CON5 - Employees in our department are always available to colleagues in other departments, CON6 - It is expected that all communication between departments takes official / specified channels, CON7 - Young managers from one department can easily arrange a meeting with young leaders from other departments

Source: Authors' own research

Efficiency of operation by governmental levels in Bosnia and Herzegovina

Table 10 shows the mean value of indicators for efficiency of operation by governmental levels in Bosnia and Herzegovina, i.e. the mean value and standard deviation for each item. The highest mean value for all indicators of efficiency of operation is found in the Brčko District (mean=3.6) and at the cantonal level of government (mean = 3.4), while the lowest mean assessment of all indicators is found at the Entity level of government (mean = 3.2).

Table 10
Efficiency of operation by governmental levels

Efficiency of operation	Municipality and City		Canton		Entity		Brčko District		State		All organisations	
	Mean	St.Dev	Mean	St.Dev	Mean	St.Dev	Mean	St.Dev	Mean	St.Dev	Mean	St.Dev
EO1	3,9	0,65	3,8	0,60	3,6	0,57	4,25	0,50	3,4	0,69	3,7	0,6
EO2	3,8	1	4,1	1,05	3,3	1,14	4	0,81	3,3	1,05	3,7	1,01
EO3	3,1	0,83	3,1	0,60	3,3	1,07	3,2	0,95	3,8	0,91	3,3	0,87
EO4	3,4	0,85	3,3	0,86	3,1	0,95	3,2	1,25	3,3	0,82	3,2	0,94
EO5	3,1	0,76	3,3	1,11	3,2	1,12	3,2	1,73	3,2	0,63	3,2	1,07
EO6	3,1	0,92	3,5	1,23	2,9	0,96	3,5	0,50	3	0,94	3,2	0,91
EO7	3,2	0,78	3,3	0,86	3	1,06	3,2	0,95	3,3	1,05	3,2	0,94
EO8	3,4	0,78	3,5	0,88	3	0,88	4	1,15	3,6	0,84	3,5	0,9
EO9	3,5	0,82	4,1	1,05	3,8	0,91	3,5	1,00	3,2	1,03	3,6	0,96
EO10	2,9	0,97	3,4	1,13	2,9	1,28	3,7	0,95	3	0,66	3,1	0,99
EO11	3,2	0,87	3,2	0,66	3	1,03	3,5	1,00	3	0,66	3,1	0,84
EO12	3,9	0,78	3,2	0,83	3,6	1,07	3,7	0,50	3,2	1,03	3,5	0,84
EO13	3,6	0,87	2,8	0,60	3,1	1,20	4	0,81	3,8	1,31	3,4	0,95
EO	3,3	0,83	3,4	0,88	3,2	1,01	3,6	0,93	3,3	0,89	3,3	0,9

Notes: EO1 - Relations with citizen service users are good, EO2 - In our organization there are no examples of departure because of dissatisfaction with salary, opportunities for advancement, relationships at work, etc., EO3 - The productivity of employees is much higher than in the average organization, EO4 - The staff's trust in the administration is high, EO5 - Mutual trust of employees is very high, EO6 - The organization of employees is very efficient, EO7 - Membership in employee organizations is at a high level, EO8 - Labour costs per employee are much lower than in many other organizations, EO9 - Absence from work in our organization is very low, EO10 - Employee satisfaction is very high, EO11 - The staff's ability to learn and adapt is great, EO12 - The number of complaints concerning our work declined in the past year, EO13 - The reputation of our organization with citizens has improved greatly

Source: Authors' own research

Discussion

Process maturity by government levels

Regarding process maturity of organizations by the level of government in Bosnia and Herzegovina following conclusions are made. The highest degree of process maturity is found in the Brčko District 3.62, followed by the state level of government 3.5, cantonal level of government 3.46, municipal level of government 3.34, and the lowest degree of process maturity is found in the entities 3.1. The mean value of process orientation for all organisations in Bosnia and Herzegovina has the value of (BPO=3.36). Based on the BPO model of maturity and its phases (Figure 1), we can see that the public administration in Bosnia and Herzegovina is somewhere between the second and third phase of process orientation, i.e. between the "defined" and "linked" phase.

Based on these research results, we can say that the first research proposition (RP1) is accepted, that there is a statistically significant difference in the maturity of processes at different levels of government in Bosnia and Herzegovina.

Process management indicators by government levels

The highest mean assessment value for all work process indicators is found in the Brčko District (mean = 4.00) and municipalities and cities (mean = 3.6), while the lowest mean assessment values for all indicators is found in the Entities (mean = 3.3) and Cantons (mean = 3.4). The ANOVA analysis has revealed that average values of variables WP1 (p-value=0,057) and WP2 (p-value=0,016) statistically significant at the 10% level, while there is no significant difference in terms of the level of government for the other indicators.

The indicator "An employee looks at the organization as a chain of linked processes" (WP1) shows that employees at organisations that have more immediate contact with citizens (municipality and city, District Brčko), i.e. organisations that provide direct services to the citizens, see their organisations as a chain of linked processes, while this is less the case at higher levels of government.

Indicator "The organization often uses terms such as: the process, the input process input, the output process and project coordinator" (WP2) shows that in Brčko District, the municipalities and cities, and the state level of government, project management terms are

often employed. The reason for this may be that municipalities and cities, Brčko District and the state level of government are much more active and creative in carrying out projects, i.e. the aforementioned organisations have the most cooperation with international organisations, applying to various national and international funds. Local communities (municipalities, cities and Brčko District) apply to many international projects for funding local community development (institutional strengthening of capacities for local self-government, development of communal infrastructure, etc.), while the state applies to international projects that provide funds for strengthening the building of state institutions, promoting peace and democracy, protecting human rights, protecting from natural disasters, etc. This explains why employees are more familiar with project management terminology. (See: Report of the Ministry of Finances and the Treasury of B&H/Sector for Coordination of International Economic Aid Overview of Donor Activities in Bosnia and Herzegovina 2010-2011)

The best mean assessment of all process jobs indicators is found in the Brčko District (mean=4.00), while the lowest mean assessment of all indicators are found at the Entity level of government (mean=3.6) and the state level of government (mean=3.6). The ANOVA analysis has revealed that average values of variables PJ2 (p-value=0,057) statistically significant at the 10% level, while there is no significant difference in terms of the level of government for the other indicators.

The indicator "Employees can independently solve problems in the workplace" (PJ2) shows that at the municipality, cantonal, Brčko District and state level of government, employees have the opportunity to independently solve problems at their workplace, while at the entity level employees have little opportunity for independent problem solving. This is understandable to some extent given that the municipalities, cantons, Brčko District and state institutions have more say in solving problems under their jurisdiction while the entity levels most often serve for passing framework laws, policies, programs, guidelines and strategies.

The highest mean value for all management and measurement process indicators is found in the Brčko District (mean = 3.5), while the lowest mean value for all indicators is found at the Entity level of government (mean = 2.8). The ANOVA analysis has revealed that average values of variables MMP3 (p-value=0,018) and MMP4 (p-value=0,072) statistically significant at the 10% level, while there is no significant difference in terms of the level of government for the other indicators.

The indicators "Organizational resources are allocated depending on the process" (MMP3) and "Specific targets are set for individual measures of process efficiency" (MMP4) shows that there are significant differences in the allocation of resources for business processes and the setting up of specific targets for the individual measurement of process efficiency. Resources for business processes are allocated best in Brčko District and have the worst allocation at the entity level. In Brčko District, for the most part, there are specific targets for individual measurement of process efficiency. The reason for this is that the majority of business processes does not take place at the entity level, but rather at the local and state levels.

The highest mean value for all indicators of conflict between parts of the organization is found at the state level of government (mean = 3.5), while the lowest mean assessment of all indicators is found at the Entity level of government (mean = 2.6). The ANOVA analysis has revealed that average values of variables CPO1 (p-value=0,065), CPO2 (p-value=0,009), CPO3 (p-value=0,016) and CPO5 (p-value=0,000) statistically significant at the 10% level, while there is no significant difference in terms of the level of government for the other indicators. The indicator "Most departments in the organization cooperate with each other well" (CPO1) shows that at the cantonal, Brčko District and state levels of government, most departments within the organisation cooperate well, while at the municipality level and the entity level, cooperation is significantly weaker.

Indicator "Encounters between employees of different departments often lead to anxiety and tension" (CPO2) shows that in Brčko District and at the state level of government, when employees from differed departments encounter each other, there is often anxiety and tension. Indicator "Employees from one department do not like to work with employees from another department" (CPO3) shows that in the Brčko District and at the entity and state levels of government, employees from one department do not like to cooperate with employees

from a different department. The reason for this can be found in the fact that at the Brčko District and state levels of government, ministries and departments are populated with employees from both entities. These are spaces where political antagonism surfaces and employs disagree over the political future of Bosnia and Herzegovina. The constitutive peoples of Bosnia and Herzegovina have different ideas concerning the political future of Bosnia and Herzegovina.

The indicator "Protection of "field" department is a normal occurrence in each organizational unit" (CPO5) shows that employees at the state, cantonal and municipality levels are best at protecting the legal competences of their departments, while the Brčko District and entity levels are not sufficiently concerned with their jurisdiction, consciously surrendering their responsibilities to lower levels of government in their entity or canton.

The highest mean value for all indicators of cooperation between parts of the organizations is found at the cantonal level of government (mean = 3.9) and the state level of government (mean = 3.7), while the lowest mean assessment of all indicators is found at the Entity level of government (mean = 3.2). The ANOVA analysis has revealed that average values of variables CON1 (p-value=0,005), CON4 (p-value=0,012) and CON6 (p-value=0,032) statistically significant at the 10% level, while there is no significant difference in terms of the level of government for the other indicators.

The indicator "In our organization, it is easy to talk to everyone, regardless of their position and function" (CON1) shows that at the municipal and cantonal levels, employees can easily talk to everyone regardless of their position and function. At the higher levels of government, this kind of communication is somewhat harder to achieve. The reason for this is that employees come from differed regions, belong to different political parties, are of different ethnicities and have different levels of education.

Indicator "Managers discourage employees from discussing matters with anyone who is not directly subordinate or superior to them" (CON4) shows that at the state and cantonal levels of government, managers discourage employees from discussing matters with anyone who is not directly subordinate or superior.

Indicator "It is expected that all communication between departments takes official/specified channels" (CON6) shows that at the Brčko District, cantonal and state levels of government, there is an expectation that all communication between departments take place through official, specified channels.

Based on the presented results we can conclude that the second research proposition (RP2) is accepted, and we can say that there is a statistically significant difference in the presence of management at different levels of government in Bosnia and Herzegovina.

Efficiency of operation by governmental levels

The highest mean value for all indicators of efficiency of operation is found in the Brčko District (mean=3.6) and at the cantonal level of government (mean = 3.4), while the lowest mean assessment of all indicators is found at the Entity level of government (mean = 3.2). The ANOVA analysis has revealed that average values of variables EO12 (p-value=0,029) and EO13 (p-value=0,029) statistically significant at the 10% level, while there is no significant difference in terms of the level of government for the other indicators.

The indicator "Number of complaints concerning our work has declined in the past year" (EO12) shows that the number of complains by citizens concerning the work of local and entity government bodies has declined in the past year, while the cantonal and state levels have received a greater number of complains from citizens concerning the functioning of their institutions. The reason for this is that the cantonal and state levels of government provide more complex services that citizens are often unsatisfied with, while the local level of government provides services that are easily available to citizens and do not require significant financial input. These services are usually communal (trash removal, public transportation, distribution of water, road maintenance) or administrative (issuing personal documents). There is no need to invest significant funds for the efficient operation of these services; designing a more efficient business process can suffice.

Indicator "The reputation of our organization with citizens has improved greatly" (EO13) shows that the municipalities, Brčko District and the state have improved the reputations of

their organisations with citizens. The cantonal and entity levels of government do not have a positive reputation among citizens. The reason for this lies in the fact that these levels of government are primarily concerned with political games and scant attention is paid to development projects that would lead to the creation of new jobs and increased employment. Citizens expect that these levels of government will create new jobs.

Based on the presented results of the research we can conclude that the third research proposition (RP3) can fully accept, or we can say that there is a statistically significant difference in the efficiency of public administration at different levels of government in Bosnia and Herzegovina.

Conclusions

Summary of study findings

Our research was undertaken with the aim of analysing the possibility of introducing process-orientated management at public organisations. The research confirms the existence of the BPO concept at public organisations in Bosnia and Herzegovina. It also confirms that BPO has various values according to the level of government and that the efficiency of public organisations varies with the level of government in Bosnia and Herzegovina. On the basis of the empirical data, we can conclude that the starting hypotheses of this paper have been partly confirmed.

Our research indicates that process orientation varies with the level of government in Bosnia and Herzegovina. The paper also indicates that public administration in Bosnia and Herzegovina is efficient to varying degrees in accordance with the level of government. One of the most important conclusions of this paper is that process orientation of public administration in Bosnia and Herzegovina is 67.2% and that the efficiency rate of public administration in Bosnia and Herzegovina is 66%.

These results indicate that states, or rather public administration, should pay more attention to process-oriented management, i.e. to defining and integrating work processes in public administration, in order to increase the efficiency and quality of providing public services.

Practical implications

An increasing number of authors have discussed the advantages of process-oriented management and the efficiency of organisations. (McCormack & Johnson 2001; Hammer & Champy 2004; Bosilj Vukšić *et. al.*, 2008; Hernaus *et. al.*, 2012, Bosilj Vukšić, *et. al.*, 2012) There are also some authors who indicate the difficulties involved in trying to implement management knowledge and skills in public administration. Benazić (2009) states that the process approach to designing organisations within government administration can have unsatisfying results. In contrast to the private sector, it is more difficult to establish key processes in government administration that create value for citizens, while promoting and achieving the public interest. Therefore, organisation can be more difficult and more demanding. The same author also states that the transformation of organisation structure for government administration calls for significant changes in the culture, task design, management philosophy, information systems and the award system which is particularly difficult when it comes to bureaucratic structures with clearly defined responsibilities, narrowly defined work processes and jurisdictions, and a salary system dependent on position and not on results. In such organisations, there is a resistance to change coming from the higher levels that can, in the final analysis, make transformation impossible.

The process approach does not guarantee efficiency in public administration, nor does efficiency necessarily result in a process approach. However, it is certain that one of the possible methods for increasing the quality of public administration in Bosnia and Herzegovina is the application of process-oriented management.

It is necessary to be aware of both the advantages and disadvantages of business process orientation in public administration. It is certain that the advantages outnumber the disadvantages. This paper indicates just some of the advantages that come with public administration organizations adopting the concept of process-oriented management.

Although this paper does not present any unexpected results, it significantly contributes to the empirical evidence on the need to establish the theory of process-oriented management in public administration and the necessary training in the management of business processes.

This paper should aid managers in public organisations in considering the introduction of process-oriented management or the possibility of applying process-oriented management in public administration.

Limitations and suggestions for future research

This article has some limitations. The study was conducted on a small scale in one country. It is difficult to draw conclusions for other countries and other contexts of research based on the research conducted in one country case study. In terms of its complex state structure, Bosnia and Herzegovina is unique in the world. It would be desirable to carry out similar research on a sample that included a number of public organizations from several countries in order to make valid conclusions about the possible differences between public organizations at various levels and differences in individual countries. Secondly, the BPO model that we used in this study was developed to explore the process of economic maturity of organizations. Unlike economic organizations, with public organizations it is much more difficult to identify the key processes that create value for citizens and realize the public interest. Application of the BPO model is particularly difficult in bureaucratic structures with clearly divided responsibilities and narrowly defined duties and powers, where the system pays the workplace, and not according to their results. The recommendation issuing from this is that other researchers should devote more attention to the role of organisational structure and organisational culture characteristics in public organisations.

Process of restructuring complete public sector is a long-term and comprehensive task, with plenty of issues that have to be overcome. Analysis of current situation in every public company and examination of strategic directions for future development is definitely the first step. Our research presented that implementation of network organizational model proved to be successful solution for public sector organization in several cities and municipalities. Analysed cases showed that the predominant institutional model for the public sector network is holding. The examples presented in this paper showed that the application of holding institutional solution in public sector leads to improved command, increased level of control, reduced management costs, better allocation of city resources and decreased overheads in the public sector. Positive results were achieved despite the size of the city, its geographical location or cultural characteristics of its residents, due to the high adjustability of the model. The ultimate goals are increased business performance of public enterprises, improved quality of public services and better living standard in the community. For this reason, holding approach gains benefits not only to the city, but also to the residents.

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