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# Business process orientation construct analysis in companies in the Republic of Macedonia

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**Abstract** - In today's global and continuously changing environment, companies are pressured to become more flexible, fast responding, customer oriented and to follow the fast technological development. To achieve these goals they should become business process oriented. Business process orientation (BPO) and process thinking help management to leverage the use of information and communication technologies (ICT) and the Internet, and hence to implement e-business more successfully. E-business strategies have made the need of streamlining, integrating and automating business processes even more pressing. Hence, efficient business processes and higher levels of process orientation are become elementary for organization's success in e-business environment.

Due to the potential of e-business technologies and organizational transformation towards process oriented organization in dynamic environment, the goal of this paper is to analyze business process orientation of Macedonian companies in selected industries and to estimate their level of business process maturity. For this purpose an empirical research was conducted based on the previously prepared questionnaire interviewing managers in Macedonian companies in the banking, telecommunication and IT sector.

## I. INTRODUCTION

Today, e-business strategies have made the need to streamline, integrate and automate business processes even more pressing for organizations. Business processes are become elementary for organization's success. In order to maximize its competitiveness in the global, dynamic environment companies need to have business processes which are both efficient and effective. This requires process orientation and achievement of higher levels of process maturity.

In the e-business environment managing a business, means managing its business processes. In that sense, business process orientation – BPO has become one of the most important management paradigms in the new millennium.

But, being aware of its business processes is not enough. Managing mature business processes is the new challenge for contemporary management, since higher levels of process maturity promises better organizational performance. In this sense, maturity models have been

proposed to gradually assess and improve business processes in organizations.

## II. BUSINESS PROCESS ORIENTATION AND BUSINESS PROCESS MATURITY

### A. Business process orientation - BPO

In the extensive literature on business process management, there are numerous definitions of business process orientation - BPO that vary. One that is more generic and comprises all of the basic elements of the concept is McCormack's and Johnson's [6] definition of process orientation. According to them, an organization that, in all its thinking, emphasizes process as opposed to hierarchies with a special emphasis on outcomes and customer satisfaction is considered as process oriented [6]. The concept of BPO is based on the assumption that the value to customers is delivered by streamlining and accelerating work patterns [6]. Placing the focus directly towards customer and managing end-to-end processes provides a strategic approach in achieving a competitive advantage in the current customer-centric e-business environment.

Organizational transformation towards process orientation for companies means numerous benefits like more efficient execution of work resulting in cost savings, improved customer focus, better integration across the organization, increased flexibility of the company accompanied with improved customer satisfaction etc. Another benefit from process focus is improved hand-offs between functions that leads to cycle time reduction. Process orientation reflected in processes that are broadly defined eliminates redundant activities, verifying inputs one time for all functions within organization. Further, it is indicated that investments in business processes and their management creates competitive advantage for companies and provides significant improvement to the overall system [5], [6].

The concept of BPO in the literature is considered as multidimensional and holistic. Hence, different authors have identified different elements that constitute BPO, each of them having different impact on BPO maturity level. As most relevant in the literature are models and frameworks defined by Kohlbacher, (2010), Škrinjar et al.,

(2010), Willaert et.al, (2007), Reijers (2006), Rosemann et.al, (2006), McCormack, and Johnson (2001). These models in general differ in the number of elements i.e. critical success factors influencing the level of BPO in organizations. Most common are the three elements present in the model of McCormack, and Johnson (2001).

According to McCormack and Johnson (2001), the BPO construct is defined through the following three basic elements: process view, process jobs and process management and measurement [6]. In addition to the basic components, they also discuss about the importance of two supporting components: organizational (process) structure and organizational culture referring to the process values and believes. These two elements enable the basic components to operate, interactively [3], [6]. The above mentioned BPO elements refer to the following:

Process view (PV) refers to the importance of the definition and documentation of business processes and their understanding from top to bottom and from the beginning to end of a process in the organization. w. Documentation of process steps, activities and tasks comes in both visual and written formats that allow people in different job functions and companies to communicate using the same vocabulary. This component includes broad understanding of the processes across the organization, not just documentation.

Process Jobs (PJ) refer to the definition of process related tasks and roles in the organization. These jobs include horizontal rather than vertical responsibility. People participate and take ownership of the entire process.

Process Management and Measurement systems (PMM). This component includes process measurement systems, rewards for process improvement, outcome measurements, customer-driven and team-driven measures, and rewards.

These individual dimensions of the BPO construct i.e. measured variables - PV, PJ and PMM in the model are measured by 3, 3 and 5 items respectively, as given in the table below.

TABLE I. OPERATIONALIZATION OF THE BPO CONSTRUCT

Process view (PV)	
PV1	The average employee views the business as a series of linked processes.
PV2	Process terms such as input, output, process and process owners are used in conversation in the organization.
PV3	The business processes are sufficiently defined so that most employees know how they work.
Process jobs (PJ)	
PJ1	Jobs are usually multidimensional and not just simple tasks.
PJ2	Jobs include frequent problem solving.
PJ3	Employees are constantly learning new things on the job.
Process management and measurement system (PMM)	
PMM1	Process performance is measured.
PMM2	Process measurements are defined.
PMM3	Resources are allocated based on process.
PMM4	Specific process performance goals are in place.
PMM5	Process outcomes are measured.

## B. Business porcess maturity model

Extensive literature on business process management suggests that organizations could enhance their overall performance by adopting a process view of business. [5], [6], [8]. But, being aware of its business processes is not enough. Managing mature business processes is the new challenge for contemporary management. In this sense, maturity models have been proposed to gradually assess and improve business processes in organizations. Hence, business process management maturity models are becoming the new promising tool for managing successful companies in e-business environment. They become practical tools that assist organizations in achieving business (process) excellence, since organizational transformation towards business process oriented organization is an evolutionary pattern and as such is based on the concept of maturity.

As the topic became very popular, a proliferation of business process maturity models can be witnessed. A wide research on the topic reviled that most of them are based on the Capability Maturity Model developed by Software engineering Institute (SEI CMM) and differ among four or five maturity levels. Generally, in the literature are familiar maturity models that refer to three major process categories: general (core) business processes, supply chains and collaborative processes [1]. The first category of process maturity models further differ maturity models that refer to a specific process (CMM for example) and maturity models that refer to the overall BPM practice and process orientation of the organization.

Besides their popularity, maturity models have been a subject to a criticism as well. Mainly they are criticized for being a simple consultancy speech or step-by-step recipes that simplify the very complex reality of organizational transformation [4], [8], [11]. In spite they represent a basic road map for organizations in their attempt at moving toward process orientation.

For the purpose of this research the model of McCormack and Johnson (2001) comprising three BPO construct elements (as discusses previously) will be used that differ four levels of maturity: ad hoc, defined, linked and integrated processes [6]. Each step builds on the work of the previous steps to apply improvement strategies that are appropriate to the current maturity level. The following definitions for the stages that an organization goes through when becoming BPO are provided [4], [6]:

[1] *Ad hoc*. 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, not horizontal processes.

[2] *Defined*. The basic processes are defined, documented and available in flow charts. Changes to these processes must now go through a formal procedure. Jobs and organizational structures include a process aspect, but remain basically functional. Representatives from functional areas (sales, manufacturing, etc.) meet regularly

to coordinate with each other, but only as representatives of their traditional functions.

[3] *Linked*. The breakthrough level. Managers employ process management with strategic intent and results. Broad process jobs and structures are put in place outside of traditional functions.

[4] *Integrated*. 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.

The first level is estimated with the average score of 1,5; the second 2,5; the third 3,5 and the fourth level with average score of 4,5. This measurement tool will help us to estimate on which maturity level are analyzed companies in our survey [6].

### III. BUSINESS PROCESS ORIENTATION AND MATURITY OF COMPANIES IN SELECTED SECTORS IN THE REPUBLIC OF MACEDONIA

#### A. General characteristic of the sample

Competitive advantage of companies today is reflected in aligned and innovated business processes. This implies that successful implementation of e-business strategies requires companies to achieve higher levels of maturity in process orientation.

BPO is becoming promising concept for managing organizations and improving their organizational performance, not only in manufacturing sector, which is traditionally considered as process oriented sector, but in other industries like some high technology industries, telecommunications, finance and insurance etc. BPO is becoming common methodology for improving organizational performance in service industries as well [7].

Due to that, for the purpose of this research companies from sectors like telecommunication, IT sector and banking in the Republic of Macedonia which at the same time show higher level of e-business penetration in the country were selected for further analysis. The structure of the sample by industry type is given in Table II.

TABLE II. SAMPLE BY INDUSTRY TYPE

INDUSTRY TYPE	Frequency	%
Banking sector	37	54,41
IT sector	18	26,47
Telecommunications	13	19,12
<b>Total</b>	<b>68</b>	<b>100</b>

Although, the sample size is not sufficient to declare the sample as representative for complex statistical

analysis, but it can certainly be considered informative for gaining insight into presence of process orientation in companies from selected sectors in the Republic of Macedonia, having in mind the specific structure of these sectors in the country.

Namely, the banking sector in the Republic of Macedonia comprises 16 banks (12 of them are in foreign ownership) and 4 saving houses (as at the end of 2013) in total. The Banks represent the most significant financial mediator, whereas, savings houses held an insignificant share. The concentration of the sector remains high, with 68, 8% share of the three largest banks in the total assets of the sector [15].

According AEC [2], the telecommunication market in the Republic of Macedonia, as in the third quarter of 2014, is represented by four companies which are FDI (foreign direct investments) (T-Mobile, VIP, ONE and Alfabone). Three of them (T-Mobile, VIP and ONE) hold the 99% of the market.

The structure of the domestic IT market is represented by IT companies (which are mainly medium and small companies) including: software and IT services companies, hardware companies and distributors, as well as training providers and ICT consulting companies [14]. Most of the world's largest IT companies such as Microsoft, CISCO, IBM, Compaq, Hewlett Packard, Dell, Siemens, Sun Microsystems, Apple, Lotus, ORACLE are present in the Republic of Macedonia via branch offices, distributors, dealers, resellers, solution providers and business partners. In addition, there are a number of companies oriented towards assembling, sale and maintenance of their own computer systems [12]. Among these companies, of our interest were the ones that are engaged in software development i.e. software and IT services companies.

Due to this the sample of 68 responses from companies in the selected sectors, is considered representative for the task of the paper i.e. gaining the first insights of the process management maturity practices in these sectors in the Republic of Macedonia.

During the period from May to September 2014, an interview with 68 managers from companies in the selected sectors in the Republic of Macedonia was performed based on the previously prepared questionnaire. The questionnaire was consisted of three parts. The questions in the first part refer to the demographic characteristics of companies and respondents (managers). The second part contains question regarding the e-business strategy implementation, as well as major process characteristics of companies. The third part contains questions regarding the BPO construct which was based on the McCormack and Johnson (2001) model. Despite the questions in the first part and several questions in the second part, which were multiple choice questions, for questions in the third part a five point Likert scale was used.

Data gained from part I and part III from the questionnaire were basis for the analysis presented in this paper. The results show the following independent characteristics of the sample (Table III):

TABLE III. THE INDEPENDENT CHARACTERISTIC OF THE EXAMINED COMPANIES AND RESPONDENTS

A. Independent characteristics of the companies	Frequency	%
<i>Number of employees</i>		
10 - 49	13	19,12
50-249	14	20,59
250+	41	60,29
<i>Market share</i>		
up to 5%	13	19,12
6-10%	10	14,70
10 - 25%	18	26,47
more than 25%	27	39,71
B. Independent characteristics of respondents	Frequency	Percentage
<i>Hierarchical position of the respondents</i>		
Top management	5	7,35
Middle management	48	70,59
Lower management	9	13,24
Other	6	8,82

### B. Data analysis

Regarding the BPO construct, the results of the survey are given in Table IV. For the measurement of the level of BPO, three measurement variables were taken into consideration: process view, process jobs and process management and measurement system which represent critical success factors of BPO in organizations. In the questionnaire they were represented by 3, 3 and 5 items respectively as in the original model [6].

TABLE IV. THE BPO CONSTRUCT – DESCRIPTIVE STATISTICS

BPO construct	Mean	Std. deviation
<i>Process view - PV</i>		
PV1	3,62	0,90
PV2	3,44	0,98
PV3	3,65	0,94
<i>Process jobs - PJ</i>		
PJ1	3,81	1,12
PJ2	3,43	1,06
PJ3	3,60	1,08
<i>Process management and measurement - PMM</i>		
PMM1	3,69	0,92
PMM2	3,57	0,85
PMM3	3,19	0,87
PMM4	3,29	0,88
PMM5	3,28	0,99

Based on the mean of analyzed critical success factors of the defined BPO construct (PV, PJ and PMM), an average process maturity level of the analyzed companies in the Republic of Macedonia can be estimated. The data showed that the average value for BPO is 3.51. This means that companies in analyzed sample are among second and third level of BPO maturity according the measurement tool of McCormack and Johnson (2001).

This result cannot be generalized for all companies in the Republic of Macedonia since the sample was targeted based on the authors previous knowledge that this companies have some awareness about business process orientation and hence a certain degree of BPO. These companies as well have higher level of e-business penetration which is another indicator why a certain degree of BPO in these companies was expected, since e-business is recognized as one of the main driving forces of BPO [6]. Therefore it can be assumed that the overall process maturity of companies in the Republic of Macedonia will be different.

If we look deeper in the given descriptive statistics, based on the data given in Table IV, the lowest average value has PMM3. This means that in the analyzed companies in the Republic of Macedonia, resources are still allocated more on functional basis instead on processes. The highest average value has PJ1, which means that the jobs are more perceived like multidimensional and not simple tasks in most of the analyzed companies.

At the same time PJ1 has highest standard deviation i.e. variance in the answers. This means that there are companies where jobs are very multidimensional, but also there are cases where this statement is not true at all. The lowest standard deviation i.e. variance in the answers is evident for PMM2. This item refers to the definition of process performance measures, which means that most of the respondents recognize importance to this issue.

In the literature there is no significant indicator that there are differences in the level of BPO among companies from different sectors and different size. Even though large companies are making massive efforts to expand their BPO, in contrary, there is evidence that smaller companies tended to score better than larger ones [5]. Another question posed in the literature is the one of “natural BPO” concept which requires further investigation [5]. This means to test whether service companies, which by their nature have much more day-to-day contact with their customers, have naturally higher BPO scores than for example manufacturers, who tend to work further down the value chain

Regarding the tested sample that was carefully selected based on the authors expectations that a certain level of BPO exist in companies from selected sectors and size in the Republic of Macedonia, authors do not expect the data obtained from this survey to reveal differences based on these two criteria: industry type and company size regarding the level of BPO.

For that purpose, authors performed one way analysis of variance (ANOVA) to determine whether company size or industry type plays significant role in maturity of business process orientation construct. All assumptions for performing ANOVA like homogeneity of variances, absence of significant outliers and approximately normal distribution of the dependent variables for each group of the independent variable have been previously satisfied.

TABLE V. THE BPO CONSTRUCT AND COMPANY SIZE

Grouping variable - Company size	Small (10-49)	Medium (50+249)	Large (250+)	F ratio	F probability
PV construct	3.30	3.69	3.61	1.116	.334
PJ construct	3.74	3.71	3.53	.354	.703
PMM construct	3.15	3.52	3.44	1.193	.310

TABLE VI. THE BPO CONSTRUCT AND INDUSTRY TYPE

Grouping variable - Industry type	Banking sector	Telecomm unications	IT sector	F ratio	F probability
PV construct	3.62	3.71	3.35	1.181	.313
PJ construct	3.47	3.53	3.94	1.672	.196
PMM construct	3.49	3.24	3.33	.791	.458

Based on the F probability statistics, no difference was found in business process orientation maturity constructs between the groups when the grouping variable is company size or industry type as given in Table V and Table VI.

Thus we conclude that company size or industry type does not play significant role in business process orientation maturity on our sample data, since we do not have enough evidence to reject the null hypothesis.

#### IV. CONCLUSION

In order to take the advantage of business process orientation when implementing integrated e-business solutions i.e. automating business processes, companies and their managers have to understand that it is very important to start thinking and acting on a process way meaning to change the complete mindset of an organization.

Regardless the industry type and size, managers in all companies should focus on business processes and streamline their effort in achieving higher level of business process maturity since they promise higher organizational performance and hence better competitive position on the global market.

This research gave us important initial information on process maturity in companies in the Republic of Macedonia. As well, it showed that company size or industry type does not play significant role in business process orientation maturity on our sample data.

But in order to perform profound analysis, authors plan to extend the research in the following directions:

- to increase the number of companies in the sample by including companies from various sectors and from the overall territory of the country;
- to expand the original model by including more critical success factors in the analysis that have impact on BPO, since it is considered as multidimensional and holistic concept;
- to test the impact of BPO construct on organizational performance in companies in the Republic of Macedonia.

Business process orientation and business process management are strategic decisions and hence, require top management support, financial investment, time and commitment of all human resources in the company. BPO requires changes in the complete mindset in organizations.

The organizational transformation towards process focused organization is not a revolutionary but rather an evolutionary effort. This means that companies should join all of its resources and forces in order to gain the promised benefits from these undertakes. This counts for Macedonian companies as well.

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