Does Grade Level Matter for the Assessment of Business Process Management Maturity?

Renata Gabryelczyk
University of Warsaw, Faculty of Economic Sciences, Poland
r.gabryelczyk@wne.uw.edu.pl

ORIGINAL SCIENTIFIC PAPER

RECEIVED: NOVEMBER 2015

REVISED: FEBRUARY 2016

ACCEPTED: MARCH 2016

DOI: 10.1515/ngoe-2016-0007

UDK: 005.5

JEL: M10, L20

Citation: Gabryelczyk, R. (2016). Does Grade Level Matter for the Assessment of Business Process Management Maturity?. Naše gospodarstvo/Our Economy, 62(2), 3–11. DOI: 10.1515/ngoe-2016-0007

Abstract

The purpose of this paper is to create and test the practical application of a business process management maturity assessment conducted at two different grade levels (management and professional level) in an organization. The conceptual framework for this research includes creating a business process maturity indicator (BPMI) for six process areas: strategy, documentation, optimization, implementation, execution, and controlling. The comparative analysis of the business process management maturity is performed using the BPMI on two cases: inside a single organization and the sector internally.

Keywords: business process management, maturity of business process management, maturity models, grade levels in the maturity assessment

1 Introduction

Maturity models are used for measuring the performance and maturity of individual functional areas or processes, as well as that of the whole organization (Rosemann & de Bruin, 2005; Hammer, 2007; Lockamy & McCormack, 2004; McCormack & Johnson, 2001; OMG, 2008; Rosemann, de Bruin, & Power, 2006; Zwicker, Fettke, & Loos, 2010). Business process maturity is the ability of an organization to control its processes efficiently—that is, to define, implement, and measure its processes as well as make continual improvement decisions based on performance measurements. The process of achieving maturity is associated with developing some features characteristic of the given maturity level (Rosemann & de Bruin, 2005; Hammer, 2007; Lockamy & McCormack, 2004; McCormack & Johnson, 2001; OMG, 2008; Rosemann et al., 2006; Zwicker et al., 2010) and improving the process management areas according to the business process lifecycle (Jost & Scheer, 2002), process management lifecycle (BOC, 2007), or business process management lifecycle (Macedo de Morais, Kazan, Inês Dallavalle de Pádua, & Lucirton Costa, 2014). Studies of business process management maturity in Polish literature encompass testing the degree of business process maturity of the selected companies (Dobrzyński, Dziekoński, & Jurczuk, 2012) or the diagnosis of process maturity in terms of project objectives (Jurczuk & Gabryelczyk, 2015). Literature studies have helped uncover a gap in the study of perception of maturity for different grade levels. Thus, the purpose of this paper is to create and test the practical application of the business process management maturity assessment conducted on two different grade levels in the organization: the management level and professional level. The research will be based on two case studies: (1) a large company representing the fuel sector and (2) a sample

NG
OE

NAŠE GOSPODARSTVO
OUR ECONOMY

Vol. 62 No. 2 2016

pp. 3 – 11

from the commercial banking sector. The survey covered six process areas distinguished in the process management life cycle (PMLC) model (i.e., strategy, documentation, optimization, implementation, execution, controlling) and was conducted on a group from the organization's employees representing the two different grade levels (i.e., management and professional). The research questions were formulated as follows:

RQ1: Is the employees' perception of the organization's process areas' maturity the same for both grade levels?

RQ2: Which of the process areas are most relevant in shaping the organization's business process management maturity in the opinion of employees representing different grade levels?

To express the perception of the analyzed areas' maturity in quantitative terms, a business process maturity indicator (BPMI) was designed. It enabled a *t*-test to be performed in order to answer RQ1 and to investigate the correlation between the general maturity of the organization and the maturity components according to the PMLC stages, thereby answering RQ2.

2 Literature Review

2.1 Maturity models in business process management (BPM)

While discussing processes, the notion of "maturity" is most typically defined as the capability of an organization and its processes to systematically deliver improved outcomes of its activity (Rosemann & de Bruin, 2005). The term *organizational maturity* was first defined by Philip Crosby (1979) as the organization's ability to professionally employ quality management methods and techniques. The Quality Management Maturity Grid (Crosby, 1979) is regarded as a precursor to the Capability Maturity Model Integration (CMMI) developed by Software Engineering Institute (Gibson, Goldenson, & Kost, 2006; SEI, 2006). The CMMI is currently one of the most popular organizational maturity assessment tools (Gibson et al., 2006; Humphrey, 1988). The key maturity models originating from this trend are the Business Process Management Maturity Model (Rosemann & de Bruin, 2005; Rosemann et al., 2006), Business Process Orientation Maturity Model (McCormack & Johnson, 2001), Process and Enterprise Maturity Model (Hammer, 2007), Business Process Maturity Model (OMG, 2008), and Process Maturity Ladder (Harmon, 2007). Röglinger, Poppelbuss, and Becker (2012) provided an overview of organizational and process maturity models.

The maturity of an organization is usually measured on a four- or five-degree scale and should address the factors determining the process repeatability, as well as the resources and capabilities that ensure such repeatability. According to Kohlbacher and Reijers (2013), the relevant aspects of maturity evaluation include process documentation, management commitment, process ownership, process measurement and monitoring, and continuous process improvement methods and techniques as well as organizational culture and structure. A higher level of maturity leads to a better control of the results, more accurate forecasting of goals, costs, and performance, greater effectiveness in reaching the defined goals, and the increased ability of an organization to plan and implement organizational changes (Lockamy & McCormack, 2004).

2.2 Process management lifecycle

As a rule, the business process management (BPM) lifecycle determines the management practice activities for several consecutive stages. According to Houy, Fettke, and Loos (2010), the number of steps and the terminology used when defining BPM lifecycles differ to a certain extent, but the concepts cover the same activities. Kohlbacher (2010) stressed that the BPM lifecycle not only encompasses business process analysis, design, development, and execution, but also addresses the interactions between these areas and an organization's control, optimization, and strategy. The process management lifecycle phases are most typically defined based on Deming's plan–do–check–act or plan–do–study–act cycle (Kalinowski, 2011) or using the approaches adapted by authors of process management architectures (BOC, 2007; Jost & Scheer, 2002). An overview of the literature on BPM lifecycle models, with common characteristics and peculiarities, is presented by Macedo de Morais et al. (2014), who described the seven BPM lifecycle models proposed by Van der Aalst (2004), Zur Muehlen and Ho (2006), Netjes, Reijers, and Van der Aalst (2006), Weske (2007), Hallerbach, Bauer, and Reichert (2008), Verma (2009), and Houy et al. (2010).

The PMLC (BOC, 2007) covers six basic dimensions of process management: process strategy, process documentation, process optimization, process implementation, process execution, and process controlling. These dimensions reflect the situation in the analyzed area or throughout the organization in terms of process maturity, while indicating opportunities for improvement and development toward the process management approach. PMLC is a model of procedures for process performance and

management. Conceptually, it contains all BPM lifecycle stages referred to in the literature.

3 Methodology

3.1 Research approach

The organization's process maturity evaluation exercise included a questionnaire-based survey conducted for two cases. Case 1 was a major company from the fuel sector and was listed on the Warsaw Stock Exchange. This case was selected based on the information in the management reports about the implementation of BPM in the organization and based on the practical criteria of data availability. Case 2 was a study of the banking sector, which—according to Polish authors—is the most advanced sector in process approach implementation (Nosowski, 2010). Employees in both organizations from case studies are divided into five main levels: paraprofessionals, professionals, middle and top management, executives, and board members. The professional and management groups in both case studies considered in the research were the most numerous and the most involved in the projects of business process management implementation. The study does not include paraprofessionals, executives, or board members due to the very small sample size and the inability to collect data. The professional grade level includes positions that require experience, skills, and theoretical and conceptual knowledge of the specialization in specific areas. The management grade level refers to employees focused on managing people and implementing policies and strategies to meet the organization's objectives. Employees of the organizations representing these grade levels were asked questions concerning the six process areas of the PMLC model. The questionnaire survey covered six basic dimensions distinguished in the PMLC model (BOC, 2007): process strategy, process documentation, process optimization, process implementation, process execution, and process controlling. In each area nine questions were asked.

For the process strategy, the questions of the survey revealed whether the organization's strategy is reflected in the process flows, especially those of strategic importance. The questions covered the following issues: the process objectives' definition in strategy; the interrelations between strategy and activities; the regularity of analyzing how processes contribute to the achievement of objectives; the process strategy communication; and the organization's process competence centers. The purpose of the questions concerning documentation was to find out if the processes of the organization have been identified, structured, and documented in the form of models. Understanding the organization's processes is a starting point for the development of a system for measuring and improving process performance and effectiveness. The questions explored such issues as the use of IT standards, methods and tools for process modeling, the contents of model description, the process of updating the model, and the assignment of the organization's resources to processes. In regard to process optimization, we asked if any organizational and technical barriers prevented the prompt and efficient execution of processes and if any potential process improvement opportunities were identified by the employees. Furthermore, the questionnaire covered process standardization, optimization of internal and inter-organizational processes, and process risk identification and reduction. The process implementation dimension specifies the extent to which the process approach has been implemented within the organization, resulting in the following issues being covered: employees' understanding of the new, process-based style of work; process-related training activities; the use of the organization's resources in the newly designed processes; and the limits of the organization's business units as potential barriers to the operation of processes. The process execution perspective shows the organization's maturity in aspects of the process control from the organizational and technical point of view. Here, the respondents assessed the quality of processes, the security and accessibility of the IT architecture and services, and the process risk management. Controlling enables managers to evaluate the achievement of process objectives on a regular basis by means of process monitoring and analysis tools. The questionnaire explored the issue of monitoring process performance indicators, internal process benchmarking, process planning, control and monitoring regardless of the business units' limitations, and the adjustment of the process objectives and indicators to the organization's fluctuating overall goals.

The responses were expressed on a 5-point Likert scale, ranging from 1 to 5. When answering the questions, the respondents expressed their subjective perception of the business model maturity, referring to each of the elements. The overall perception—the business process maturity indicator (BPMI)—was computed for the company as an arithmetic mean of the results obtained in the six process areas in the PMLC:

$$\text{BPMI} = \frac{1}{6}\sum_{i=1}^{6}\left(\frac{1}{k_i}\sum_{j=1}^{k_i} x_{ij}\right)$$

where x_{ij} is the value of the answer to the j^{th} question in the i^{th} process area, $i = 1, 2, \ldots, 6$, $j = 1, 2, \ldots, k_i$, and k_i is the number of questions for the i^{th} process area.

To answer RQ1, a *t*-test was conducted using BPMI, which allowed the evaluation of two groups, the management and professional grade levels, which are significantly different

from each other. Furthermore, BPMI enabled the examination of the correlations between the overall maturity of the organization and the maturity components as per PMLC.

3.2 Conceptual framework

The study was based on the conceptual framework shown in Figure 1, adapted from Roztocki and Weistroffer (2015). The literature overview focused mainly on the business process management maturity and PMLC studies. However, these studies have not covered the perception of maturity for different grade levels; therefore, the paper proposed research questions about differences of opinions expressed by the management and professional grade levels. The research approach proposes a formula for computing the BPMI for the six areas distinguished in PMLC. A comparative analysis for different grade levels was conducted. Case 1 covered an analysis inside an organization while Case 2 included an analysis inside the banking sector.

4 Results of the Study

4.1 Case 1

The business process maturity survey was conducted on a sample of 47 respondents in a large company representing the fuel sector in Poland. According to the job scale, the sample included 30 respondents classified as the management grade level (middle and top level management) and 17 respondents at the professional grade level. Descriptive statistics of the BPMI for both groups are summarized in Table 1.

In order to answer the RQ1, a *t*-test was conducted to investigate the significance of differences in the BPMI mean values in general and, with respect to the six process areas of PMLC, in both grade levels (Table 1). The BPMI results show strong, significant differences in means between the management and professional groups. Received significance is less than 0.05 for BPMI in general and for five of six process areas, which means that there are statistically significant differences between the employees' perception of the organization's

Figure 1. Conceptual framework

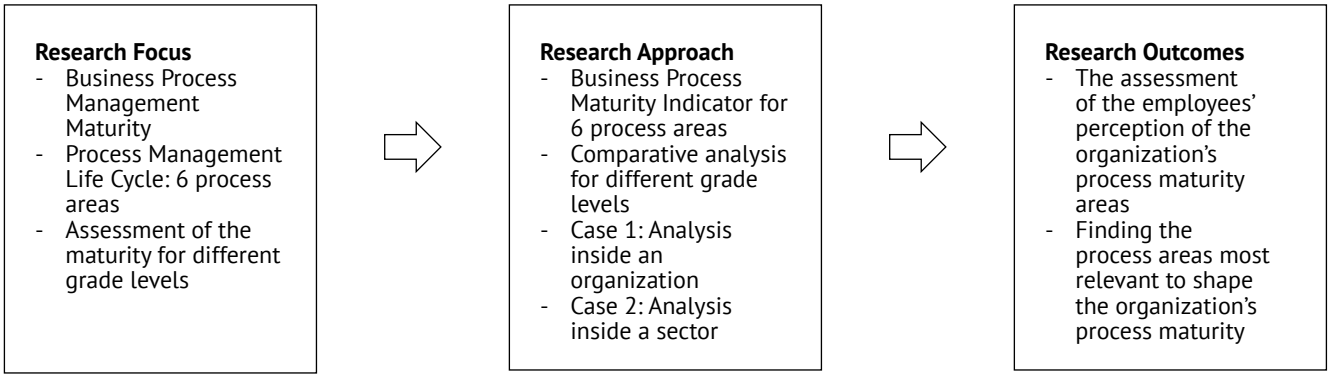

Table 1. Comparison of BPMI Elements between Management and Professional Grade Levels: Analysis within an organization

	Management grade level		Professional grade level		*t*-test
	Mean	Std. Dev.	Mean	Std. Dev.	*p* value
BPMI	3.788	0.715	3.219	0.632	0.0070**
BPMI Strategy	4.137	0.738	3.733	0.697	0.0681*
BPMI Documentation	3.852	0.746	3.320	0.919	0.0478**
BPMI Optimization	3.784	0.846	3.204	0.866	0.0310**
BPMI Implementation	3.922	0.543	3.200	0.816	0.0022**
BPMI Execution	3.529	0.945	2.986	0.839	0.0473**
BPMI Controlling	3.500	1.163	2.871	0.830	0.0365**

Notes: Mean, standard deviation, and results of two-tailed *t*-test assuming equal variances. *$p < 0.1$; ** $p < 0.05$
Anderson-Darling statistic was used to determine that data meet the assumption of normality or are very similar to a normal distribution.

process areas maturity. The outcomes can be used as inputs to RQ1 regarding the organization's process maturity perception by respondents representing different grade levels, showing higher BPMI scoring in the middle and top level management category. Strategy is the only area where differences in both groups' perception are not as apparent, which may indicate that process strategy is well communicated and perceived consistently by each of the two groups. An in-depth analysis of differences between the management and professional grade level groups' perceptions of both general and area-specific process maturity was conducted using a correlation matrix (Table 2). All process areas showed a positive correlation compatible with the PMLC model logic. According to the management grade level, execution, optimization, and controlling were the aspects most strongly correlated with the general maturity of the organization. These dimensions were strongly correlated throughout the process management cycle. Optimization uses data from controlling as inputs for the verification of process performance and effectiveness through the prism of objectives. Execution forms the organization's maturity in terms of process control from the organizational and technical point of view and collects data for controlling. As the process areas referred to thus far fall within the managers' scope of competence, they were perceived by this group as having the strongest impact on the BPMI level. Process documentation was of the least interest to the company's management.

According to the professionals, the BPMI level was most significantly affected by documentation and implementation. Professionals were interested in such areas as business process identification and modeling with the use of modeling notation as well as the practical implementation of these processes in the environment of those who perform them. Professionals perceived the area of controlling as showing the lowest degree of correlation with the overall maturity of a company.

Table 2. Pearson's Correlation Coefficients of BPMI Elements for Management and Professional Grade Levels: Analysis within an organization

	Management grade level	Professional grade level
	BPMI	BPMI
BPMI	1.0000	1.0000
BPMI Strategy	0.8660**	0.7181**
BPMI Documentation	0.6477**	0.8459**
BPMI Optimization	0.9314**	0.8110**
BPMI Implementation	0.8671**	0.8369**
BPMI Execution	0.9334**	0.8128**
BPMI Controlling	0.8873**	0.5415**

Notes: Significance level ** $p < 0.05$

4.2. Case 2

For the research of the business process maturity of the six process areas, the survey was conducted on a sample of 53 employees from commercial banks in Poland. This sample included 35 respondents classified as the management grade level (middle and top level management) and 18 respondents classified as the professional grade level. BPMI descriptive statistics for both groups are summarized in Table 3. The results of the general BPMI and for each of process area indicate differences in means between the management and professional groups. BPMI scoring is higher in the middle and top level management category.

As in Case 1, the strategy area shows less significant differences between the groups ($p < 0.1$). The fact that, in the perception of controlling, no significant differences exist between the management and professional groups seems to be peculiar to the banking sector. The financial sector is

Table 3. Comparison of BPMI Elements between Management and Professional Grade Levels: Analysis within the sector

	Management grade level		Professional grade level		*t*-test
	Mean	Std. Dev.	Mean	Std. Dev.	*p* value
BPMI	3.162	0.696	2.729	0.532	0.0148**
BPMI Strategy	3.296	0.862	2.902	0.651	0.0673*
BPMI Documentation	3.302	0.749	2.686	0.639	0.0028**
BPMI Optimization	3.056	0.596	2.641	0.565	0.0163**
BPMI Implementation	3.179	0.687	2.746	0.522	0.0134**
BPMI Execution	3.160	0.770	2.711	0.597	0.0228**
BPMI Controlling	2.975	0.866	2.686	0.640	0.1734

Notes: Mean, standard deviation, and results of two-tailed *t*-test assuming equal variances. *$p < 0.1$; **$p < 0.05$

Anderson-Darling statistic was used to determine that data meets the assumption of normality or are very similar to a normal distribution.

governed by the policies and rules imposed by international regulatory bodies (e.g., Sarbanes Oxley Act, Basel II) and national regulatory bodies (Polish Financial Regulatory Authority) and is therefore required to adopt formal internal regulations in various areas, including control effectiveness reporting. The process approach determines formal risk management and control regulations (Nosowski, 2010). Hence, the special nature of the banking sector may explain the fact that there are no statistically significant differences in the perception of controlling between the management and professional grade levels, as well as the strong, significant correlation between BPMI general and controlling for both groups. (Table 4).

The continual process of controlling provides information about the organization's strategy translated into activities and enables the organization to make the most of the complete business process management loop. Furthermore, the management grade level showed a strong correlation between BPMI for the execution and strategy process areas and lowest for process documentation. Also as in Case 1, the correlation between documentation and maturity was perceived to be stronger by professionals than by managers.

5 Discussion

The maturity model and the process management lifecycle models should be regarded as a formalized set of elements (features) describing fully efficient processes or requirements that, when satisfied, enable the achievement of maturity (Rosemann & de Bruin, 2005; Hammer, 2007; Lockamy & McCormack, 2004). It is a form of a roadmap and a standardized method of communication between participants of a project designed to build a process-oriented organization. Therefore, it is important for both managers and process operators to fully understand their roles and be aware of the organization's maturity when implementing process management (Hammer, 2007; Lockamy & McCormack, 2004). A thorough self-assessment performed using maturity models and lifecycle models enables the organization to identify sources of deficiencies as well as areas for improvement within the continual improvement cycle. Maturity models can be particularly useful for organizations initiating formalized process management, as they facilitate the identification of the current situation, thereby providing the motivation to act, while suggesting best practices that could be employed. The process management lifecycle method was chosen because the highlighted process areas in this model can be used for a comparative analysis of their perceptions by different grade levels.

Table 4. Pearson's Correlation Coefficients of BPMI Elements for Management and Professional Grade Levels: Analysis within the sector

	Management grade level	Professional grade level
	BPMI	BPMI
BPMI	1.0000	1.0000
BPMI Strategy	0.9525**	0.8826**
BPMI Documentation	0.8191**	0.8783**
BPMI Optimization	0.9021**	0.9011**
BPMI Implementation	0.9141**	0.8679**
BPMI Execution	0.9810**	0.8378**
BPMI Controlling	0.9479**	0.9238**

Notes: Significance level $**p < 0.05$

The findings show that the respondents from the management group perceived their organization more optimistically than the professionals, which can be explained by the impression management theory (Wayne & Linden, 1995), according to which managers may be trying to regulate and control information in their interaction with the personnel and the business environment in order to give them the best impression of the company, its objectives, and its management methods (RQ1). The highest scores given to process strategy confirmed the deep commitment of management at the strategy building stage and good strategy communication within the organization. The finding was supported by professionals' high perception of maturity and the fact that both grade levels differed least most notably in their perception of maturity. The *t*-test results confirmed that differences in the assessment of business process management maturity are significant between the professional and management groups (RQ1). The correlation matrix identified the process areas most relevant to shape the organization's business process management maturity in the opinion of employees (RQ2). The correlations show how individual process areas are interdependent with the organization's general BPM maturity in the perception of employees representing the management and professional grade levels. Each of the respondent groups in Case 1 favored its respective areas of involvement: optimization, execution, and controlling for the management grade level and documentation and implementation for the professional grade level. Management often participates in the business process management implementation projects in their preparation phases until the moment of the project launch (documentation, implementation), while showing no commitment later on. Professionals, who are actually involved in process tasks, have better insights into the operation aspects, which translate into the lower final maturity ranks. Out of all process areas, the controlling and execution dimensions were given lowest scores by both respondent categories,

but emphatically higher by the management group, which should come as no surprise as managers are specifically responsible for the regular evaluation of the achievement of process goals by means of process monitoring and analysis tools. In Case 2, the influence of the banking sector's nature on the process maturity perception was observed. The effect of external regulations on internal regulations is reflected in processes and seems particularly significant here. They are highly important to all employees of the banking area at various grade levels. The findings support that process maturity perception depends on the scope of responsibility of the personnel evaluating the organization as well as the communication of the business process management implementation results. Yet in both the internal analysis of a single organization (Case 1) and the analysis within a sector (Case 2), the maturity of all processes as well as the overall business process management maturity is given unequivocally higher marks by managers.

6 Conclusions and Limitations of the Study

The fact that the process approach has been implemented is not a sufficient condition for improving an organization's performance. The process maturity measurement provides a basis for making processes and process areas more efficient as well as for ensuring continual improvement. Maturity models and process management lifecycle management models may be used to (1) describe the current status of the organization; (2) ensure improvement, as the models include recommendations for the improvements required; and (3) provide comparative analyses, as they may be referred to as benchmarks for comparisons with historical data, illustrating process performance and organizational maturity, as well as for comparing maturity perception declared by employees representing different grade levels. It seems that the less diversified the maturity perception declared by personnel representing various levels in the organization, the more trustworthy the summarized evaluation of the analyzed organization's maturity. The process maturity measurement in a breakdown of six areas consistent with the PMLC reflects the process maturity of an area or of an organization as a whole while simultaneously showing opportunities for improvements and development of the organization toward process management. Limitations of this study are the small sample and cases from different fields. The presented research is only an initial study of the measuring instrument. The revision of this instrument should be done based on larger samples and through a comparative analysis of a company case in a particular branch against the same survey across the branch.

References

1. BOC. (2007). *Process management life cycle (PMLC), BOC information system GmbH*. Retrieved from http://www.bocpmmc.com/docs/BOC_PMLC_folder_web_de.pdf
2. Crosby, P. B. (1979). *Quality is free: The art of making quality certain*. New York: McGraw-Hill.
3. Dobrzyński, M., Dziekoński, K., & Jurczuk, A. (2012). A diagnosis of process maturity in a business cluster initiative. *Contemporary Management Quarterly, 3*, 41–50.
4. Gibson, D. L., Goldenson, D. R., & Kost, K. (2006). *Performance results of CMMI-based process improvement*. Technical Report CMU/SEI-2006-004 (pp. 5–6).
5. Hallerbach, A., Bauer, T., & Reichert, M. (2008). *Managing process variants in the process life cycle*. Paper presented at the Proceedings of the Tenth International Conference on Enterprise Information Systems (ICEIS), Barcelona (pp. 154–161).
6. Hammer, M. (2007). The process audit. *Harvard Business Review*, *85*(4), 111–123.
7. Harmon, P. (2007). *Business process change: A guide for business managers and BPM and Six Sigma professionals*. Burlington: Morgan Kaufmann. http://dx.doi.org/10.1016/b978-0-12-374152-3.50072-0
8. Houy, C., Fettke, P., & Loos, P. (2010). Empirical research in business process management—analysis of an emerging field of research. *Business Process Management Journal*, *16*(4), 619–661. http://dx.doi.org/10.1108/14637151011065946
9. Humphrey, W. S. (1988). Characterizing the software process: a maturity framework. *Software*, *5*(2), 73–79. http://dx.doi.org/10.1109/52.2014
10. Jost, W., & Scheer, A. W. (2002). Business process management: a core task for any company organization. In A. W. Scheer, M. Kirchmer & W. Jost (Eds.), *Business process excellence: Aris in practice* (pp. 33–43). Berlin, Heidelberg: Springer. http://dx.doi.org/10.1007/978-3-540-24705-0_3
11. Jurczuk, A., & Gabryelczyk, R. (2015). Cele doskonalenia przedsiębiorstw w kontekście dojrzałości procesowej. *Zeszyty Naukowe Politechniki Śląskiej, Organizacja i Zarządzanie*, *83*(1941), 245–254.
12. Kalinowski, T. B. (2011). Modele oceny dojrzałości procesów. *Acta Universitatis Lodziensis, Folia Oeconomica*, *258*, 173–187.
13. Kohlbacher, M. (2010). The effects of process orientation: a literature review. *Business Process Management Journal*, *16*(1), 135–152. http://dx.doi.org/10.1108/14637151011017985

14. Kohlbacher, M., & Reijers, H. A. (2013). The effects of process-oriented organizational design on firm performance. *Business Process Management Journal*, *19*(2), 245–262. http://dx.doi.org/10.1108/14637151311308303
15. Lockamy, A., & McCormack, K. (2004). Development of a chain management process maturity model. *Supply Chain Management: An International Journal*, *9*(4), 272–278. http://dx.doi.org/10.1108/13598540410550019
16. Macedo de Morais, R., Kazan, S., Inês Dallavalle de Pádua, S., & Lucirton Costa, A. (2014). An analysis of BPM lifecycles: from a literature review to a framework proposal. *Business Process Management Journal*, *20*(3), 412–432. http://dx.doi.org/10.1108/BPMJ-03-2013-0035
17. McCormack, K. P., & Johnson, W. C. (2001). *Business process orientation. Gaining the e-business competitive advantage*. New York: St. Lucie Press. http://dx.doi.org/10.1201/9781420025569
18. Netjes, M., Reijers, H., & Van der Aalst, W. P. (2006). *Supporting the BPM life-cycle with FileNet*. Paper presented at the Proceedings of the Workshop on Exploring Modeling Methods for Systems Analysis and Design (EMMSAD), Namur University, Namur (pp. 497–508).
19. Nosowski, A. (2010). *Zarządzanie procesami w instytucjach finansowych*. Warszawa: CH Beck.
20. OMG. (2008). *Business process maturity model (BPMM), version 1.0, object management group* (Document Number: formal/2008-06-01). Retrieved from http://www.omg.org
21. Rosemann, M., & de Bruin, T. (2005). *Towards a Business Process Management Maturity Model*. Proceedings *of the thirteenth European Conference on Information Systems* (ECIS), Regensburg, Paper 37.
22. Retrieved from http://aisel.aisnet.org/ecis2005/37
23. Rosemann, M., de Bruin, T., & Power, B. (2006). BPM maturity. In J. Jeston & J. Nelis (Eds.), *Business process management: Practical guidelines to successful implementations* (pp. 313–329). Burlington: Elsevier.
24. Roztocki, N., & Weistroffer, H. R. (2015). Information and communication technology in transition economies: An assessment of research trends. *Information Technology for Development*, *21*(3), 330–364. http://dx.doi.org/10.1080/02681102.2014.891498
25. Röglinger, M., Poppelbuss, J., & Becker, J. (2012). Maturity models in business process management. *Business Process Management Journal*, *18*(2), 328–346. http://dx.doi.org/10.1108/14637151211225225
26. SEI. (2006). *Appraisal requirements for CMMI, version 1.2 (ARC, V1.2)*. Technical Report CMU/SEI-2006-TR-011 ESC-TR-2006-011. Carnegie Mellon University, Software Engineering Institute.
27. Van der Aalst, W. M. (2004). Business process management: a personal view. *Business Process Management Journal*, *10*(2), 248–253. http://dx.doi.org/10.1108/bpmj.2004.15710baa.001
28. Verma, N. (2009). *Business process management: Profiting from process*. New Delhi: Global India.
29. Wayne, S. J., & Linden, R. C. (1995). Effects of impression management on performance ratings: A longitudinal study. *Academy of Management Journal*, *38*(1), 232–260. http://dx.doi.org/10.2307/256734
30. Weske, M. (2007). *Business process management: Concepts, languages, architectures*. Berlin, Heidelberg: Springer.
31. Zur Muehlen, M. & Ho, D. T. Y. (2006). Risk management in the BPM life cycle. In *Business process management workshops* (pp. 454–466). Berlin, Heidelberg: Springer. http://dx.doi.org/10.1007/11678564_42
32. Zwicker, J., Fettke, P., & Loos, P. (2010). Business process maturity in public administrations. In J. vom Brocke & M. Rosemann (Eds.), *Handbook on business process management 2* (pp. 369–396). Berlin, Heidelberg: Springer. http://dx.doi.org/10.1007/978-3-642-01982-1_18

Author

Renata Gabryelczyk, Ph.D., is an assistant professor at the Department of Information Systems and Economic Analysis, Faculty of Economic Sciences, and partner of Digital Economy Lab at the University of Warsaw. Her academic experience also includes studying at the Institute for Information Systems at Saarland University as well as research fellowships at scientific centers in Heidelberg, Constance, and Vienna. Her professional pursuits include business process management, performance management, business models, and entrepreneurship. She is also a member of the Polish Certificate of BPMN in Systems Research Institute of the Polish Academy of Science.

Ali je delovno mesto pomembno za presojo zrelosti menedžmenta poslovnih procesov?

Izvleček

Namen tega prispevka je narediti in testirati praktično aplikacijo za presojanje zrelosti menedžmenta poslovnih procesov na dveh različnih ravneh (na menedžerski in strokovni ravni) v organizaciji. Konceptualni okvir za to raziskavo vključuje izdelavo indikatorja zrelosti poslovnih procesov za šest procesnih področij, tj. strateško, dokumentacijsko, optimizacijsko, implementacijsko, izvedbeno in nadzorno. Za primerjalno analizo zrelosti menedžmenta poslovnih procesov smo uporabili indikator zrelosti poslovnih procesov, in sicer v okviru posamezne organizacije in sektorja.

Ključne besede: menedžment poslovnih procesov, zrelost menedžmenta poslovnih procesov, modeli zrelosti, delovno mesto v presojanju zrelosti