



Business Process Management vs Modeling of the Process of Knowledge Management in Contemporary Enterprises

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Abstract. Business Process Management is considered to be an up-to-date approach to an organization's operation, while process structures offer a sense of order. Knowledge resources are treated as inseparable elements of operation of processes. Moreover Knowledge Management may not be separate from Business Process Management. Modeling of the process of Knowledge Management is intended to systematize these informal rules and relations existing in process-based organizations. The main aim of this paper is to identify the modeling of the process of Knowledge Management in enterprises, which implemented Business Process Management. The article presents selected research results carried out in Poland on 122 process-oriented enterprises.

Keywords: Business Process Management · Process of Knowledge Management

1 Introduction

Under the circumstances surrounding the highly volatile economy of the 21st century, the business environment is unpredictable. In order to preserve a competitive market position, it is necessary to continuously improve an organization. One of the concepts here is Business Process Management (BPM) [2, 5, 8, 15] which focuses on organizations improve the effectiveness of existing systems, processes, products, using the available philosophies, principles, tools and management methods. Business Process Management in an organization should take into account the knowledge resources that the organization possesses in order to ensure that employees have access to knowledge regarding specific tasks which are part of particular business processes. It is oriented towards cognitive processes used to create and modify knowledge and requires a combination of creative, analytical and practical abilities/skills with respect to employees [16]. Thus, in the Business Process Management, visible elements of Knowledge Management (KM) appear. In addition, according to the principles of Knowledge Management, previous experience in Business Process Management should be used in future processes and in new situations, thus creating a learning organization [16].

Therefore, the processes occurring in an enterprise should be increased based on individual, team, and organizational knowledge and, consequently, become more and

more flexible as well as adjusted to the changing environmental conditions [14]. Process modeling is concerned with the transformation of knowledge about the functioning of a selected (business) area in an organization and the processes that take place within it into the corresponding models.

The main objective of this paper is to identify the modeling of the process of Knowledge Management in enterprises, which implemented Business Process Management. Prior to conducting analysis, the following hypothesis have been put forward: Business Process Management has a positive influence on modeling of the process of Knowledge Management in enterprises.

2 Theoretical Background

Focusing on Business Process Management, organizations improve the effectiveness of existing systems, processes, products, using the available philosophies, principles, tools and management methods. One of the stage of BPM lifecycle is business process modeling which allows understanding the functioning of the organization through defining, structuring, designing, integrating and improving the processes. The result of business process modeling is a process model - a graphic illustration of the links and mutual interactions within the process. Process modeling usually takes place based on two approaches: the top-down approach and bottom-up [5, 7, 13, 15]. A process model is a formalized representation of an actual process (recorded with a specific notation system f. e. BPMN), which allows to demonstrate its structure and the interrelations between its elements (i.e. the tasks, data, resources, and other). Enterprises use standard solutions in the form of good practices, reference models, industry models, and use models of maturity, which allow to indicate further directions of development in the field of Business Process Management. One of the basic standards is BPM CBoK (Business Process Management Common Body of Knowledge) [4], which requires the use of specific models, methodologies, standards and guidelines in the form of specific standards that contain elements of knowledge and a project approach. (It contains Process Modeling). Moreover, organizations use a multi-dimensional approach that includes IT, social or organizational dimension [5, 15–17].

Knowledge is a key element of any process, and in companies where knowledge and processes are treated separately, they quickly become obsolete and will not be competitive with other companies that allow teams a synergistic approach to knowledge management and process management [18]. On the other hand, a large contribution to the development of the process model of Knowledge Management has been provided by Davenport and Prusak, Probst, Romhardt and Raub [3, 11, 14]. In line with the process model, Knowledge Management is all the processes allowing to create, disseminate, and use knowledge in order to fulfill the purposes of an organization. There are three main phases of knowledge management: acquisition (creation) of knowledge, sharing knowledge, and transforming knowledge into decisions. Process model used mainly by large organizations is based on methods proven in practice. There is also the so-called Japanese model [10]. Knowledge Management based on the principle of a spiral is a repeating cycle of four processes of knowledge conversion: internalization, socialization, externalization, combination.

To use the synergies of Knowledge Management and Business Process Management, it is necessary to enable the use of knowledge not only during the design and then analysis of the processes performed, but above all during their implementation. According to U. Remus, knowledge-oriented knowledge management is necessary, while at the same time conscious shaping of business processes so that they use and support Knowledge Management [9]. Modeling of the process of Knowledge Management it applies to the same rules and standards as for other business processes.

The process of Knowledge Management is an element of the concept of Integrated Business Process Management (IBPM), which was placed in the process architecture, in the support processes category [1]. Enterprises can use for this purpose a PFC solution in practice, prepared by APQC, for the standardizations where individual Knowledge Management processes have been defined [12]. If appropriate organizational conditions are created as well as awareness of the management and the staff is awoken, it allows to diffuse knowledge which contributes to the development of innovative ideas and solutions [6, 9, 11, 17]. Successful promotion of new ideas, effective acquisition and sharing of good practices, and integration of various areas of specialist knowledge altogether create conditions for the development and growth of a company as well as creation of innovation [17].

3 Research Methodology and Selected Results

Empirical research has been carried out on a sample of 122 companies operating on the territory of Poland in 2019. A selection of enterprises for the study was performed by the method of target screening, taking into account only organizations that have implemented and adopt Business Process Management. So far there has been no research on modeling of the process of Knowledge Management in the process oriented organizations. An important criterion for the division of the companies under examination was the number of employees. The companies under analysis were classified into the following groups: small enterprises – 10–49 people (24.6%) medium-sized enterprises – 50–249 people (24.6%), and large ones – 250 and more people (50.8%). The survey questionnaire was filled in by the management staff, the executives, owners, process managers, experts in process management, representatives for quality management, members of process offices, business analysts, and project managers.

Process modeling is carried out by 41.8% of the surveyed enterprises. The intensively developing market of BPMS tools requires additional skills from users, modernization of tools adapted to new technologies. The surveyed enterprises use the following solutions: cloud computing (19.7%) in the field of automation and robotics (14.8%) of artificial intelligence (4.1%). IT tools for modeling Knowledge Management processes are the same as for other core and support processes. The use of Knowledge Management in the surveyed process-oriented enterprises amounted to 26.9%, while 22.1% use the knowledge portal on Business Process Management. In the case of 22.1% of enterprises, the Knowledge Management process is modeled (the Knowledge Management model was built and implemented). Companies have noticed that implementation of the model of Knowledge Management brings some benefits. First and foremost, it was possible to use the collected knowledge more extensively as

well as assess document, and gathered it (20.1%), moreover, knowledge was shared among employees who learned and developed their competences (18.1%).

In order to test the correlations between the Business Process Management and the model of the process of Knowledge Management has been used the Yule's, Pearson's, and Bykowski's coefficients. Inferences concerning the main hypothesis point to the fact that Business Process Management has a positive influence over the modeling of Knowledge Management processes (the Yule's coefficient 0.95, Pearson's coefficient 0.81 and Bykowski's coefficient 0.79).

4 Conclusions

Business Process Management is considered to be an up-to-date approach to an organization's operation. It is easier for organizations using Business Process Management to create the model of Knowledge Management processes; because knowledge is collected in databases of processes in repositories. There are knowledge resources and they are used, modified, shaped, and perpetuated. The modeling of process of Knowledge Management is intended to systematize these informal rules and relations existing in process-based organizations and make them objective. In natural way combines Business Process Management and Knowledge Management. Coping with this sphere and its operationalization by means of specific strategic, structural, technological, and personal solutions by specific KPI constitute a challenge for each and every process-based organization.

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