

BUSINESS PROCESS MATURITY IN SMALL AND MEDIUM-SIZED ENTERPRISES

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Abstract: Business process management in an enterprise is an approach to management that concentrates on optimizing the ways business processes in organisation's run. The business process maturity of the organization is one of the success factors. From this perspective, the constant advancing the process maturity level is the relevant economic task and the area is still an important issue requiring investigation. The article presents the results of empirical research - the survey was conducted in 2015 on a group of 138 enterprises in Poland. The main aim of this article is the identification and analysis of business process maturity in small and medium-sized enterprises in Poland, as well as finding the areas that require the intensification of process management.

Key words: business process maturity, BPM, small and medium-sized enterprises, SMEs

Introduction

Currently, the dynamically developing market environment is typical for its elements of high uncertainty, small and medium businesses are led to the need to use all the knowledge to increase their productivity. One way to find solutions for more efficient business management is the use of Business Process Management (BPM). Process management is increasingly important for the functioning of the organization and has a positive influence on their success. Today, the number of successful businesses has process management system already in place. Improving business processes is a key necessity to maintain the competitiveness of business entities in the European Union in the global market.

Business Process Management seeks to identify critical points in business processes and can lead to the standardization of processes. This is achieved through the application of new rules of procedures, including monitoring, measurement and performance management. Maturity of business processes can be considered one of the most important characteristics for the success of the company. Process-managed enterprises dynamically respond to market needs, competition, availability of resources and the external environment by being able to change internal processes without jeopardizing their own existence. These enterprises continuously improve the processes and gaining a competitive advantage in globalized market.

Small to medium enterprises (SMEs), have a significant role as engines of economic and social development (Floyd and McManus, 2005; Pietrasieński,

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and Ślusarczyk, 2015). Small to medium enterprises (SMEs) make a key contribution to the economy in terms of employment, innovation and growth (Tabor, 2006). It emphasizes the importance of the research undertaking in order to identify the conditions and determinants of SME sector development. SME sector until recently have shown a general tendency not to include elements of process management in their strategy of action (Tabor and Roman, 2004; Zimmerer and Scarborough, 2005). It can be assumed that business process maturity of SMEs is on the insufficient level and requires methods and tools helping in its improvement.

Theoretical Background

Growing importance of Business Process Management dates from the very beginning of this discipline. Business processes are generally defined as sequences of tasks performed within or across companies or organizations (Schult et al., 2015). Business processes describe how organisations operate, and therefore have influence on their performance. The issue of process and its comprehension lies in its division into individual systems and sub-processes. These, however, cannot be understood in isolation from the other processes, but in the context of relations with other processes. At present, the effectiveness of business processes is an important aspect of enterprises' activity, regardless of dynamics of the environment they are functioning in (Łobaziewicz, 2013).

Business process management is a comprehensive approach to realizing efficient and effective business processes in an economic entity. This process view contrasts the functional view, which originates from the division of labor in Taylorism (Schmiedel et al., 2014). Elzinga et al. (1995) define BPM as a systematic, structured approach to analyze, improve, control and manage processes with the aim of improving the quality of products and services. As Singh (2012) stresses, BPM can speed up organizational processes, reduce needed resources, improve efficiency and productivity, improve competitiveness for organizations, etc. According to Hammer (2010), the purpose of BPM is to increase the efficiency and effectiveness of organizational processes through innovation and improvement – a gradual, continuous improvement of business processes rather than a thorough reengineering (Lee and Dale, 1998; Zairi, 1997). Therefore, BPM delivers a collection of tools and methods for achieving an understanding of, managing, and improving an enterprises' process portfolio (zur Muehlen and Indulska, 2010). In order to develop within the organization, BPM requires top management understanding and involvement, process-aware information systems, well-defined accountability and a culture receptive to business processes (Smith and Fingar, 2003).

Although BPM has been an economic concept for decades, its strategic and operational roles within organizations are still an important issue requiring investigation from various perspectives (Bititci et al., 2011).

Using BPM in a company in the past dealt with authors such as: Hammer (2000), Basl (2002), Urbánek (2002), Hrůza (2007) or Šmída (2007). At present, focus

is on a higher level BPM in connection with the so-called Business Performance Management. This process assesses the level of maturity of the company, and is known as Business Process Management Maturity. In connection with the evaluation of maturity process of the enterprise and corporate performance raises the question of further development in the field of business process management, particularly in small and medium-sized enterprises.

Various empirical researches indicate that there is a positive correlation between business process management and success of the organization (Trkman, 2010), and this is why the constant advancing the process maturity of an enterprise is so important. Business process maturity is defined by McCormack et al. (2009) as that which is derived from “an understanding that processes have life cycles or developmental stages that can be clearly defined, managed, measured and controlled throughout time”.

Maturity models allow organizations to understand their processes and provide a standard helping in process measurement and possible improvement introduction. They are used for assessment and also as a guide for improvement of process capabilities (Kalina et al., 2013). Process maturity also shows how the perception of the processes fits into the company's strategy. On the one hand, the process maturity tells how to be aware of employees to participate in business processes, on the other hand - how managers use knowledge about the processes in decision making and development of the organization. Since the 1970s, the maturity models have been recognized as important improvement tools for organizations. The most common used maturity models are: Capability Maturity Model Integration (CMMI), Business Process Maturity Model (BPMM), Process and Enterprise Maturity Model (PEMM), Crosbi MaE etc. (Bitkowska, 2013). Despite the various maturity models, a common conceptualization is still lacking (Looy et al., 2013). Similar to a maturity model is model with different process states which was described by Wheeler in 1997 (Cronemyr and Danielsson, 2013).

Business Process Maturity Model (BPMM) is a natural development of the Capability Maturity Model, which has been modified and generalized so that it can be used to evaluate business processes that support the management of the whole enterprise. The development of the Business Process Maturity Model (BPMM) began in 2002. The BPMM is a conceptual model that compares the maturity of an organization's current practices against an industry standard. This model is able to help the organization to set priorities for improving its outputs operations using a proven strategy and developing the capability required to execute its business strategy. Through the BPMM, an organization can efficiently and effectively manage their business process while trying to achieve and realize its business purposes and values (Lee et al., 2007). The model highlights the basic management principles that should be used to improve maturity. The higher the level of maturity, the more activity is productive, allowing the company to gradually improve the quality of results and manage the costs and time to implement the business process. When using the evaluation of the levels of maturity

of the organization, it is possible to determine how the organization is resistant to change internal factors, and how it is adapted to changing external conditions.

For BPMM *maturity* and *maturity level* are very relevant terms. Process maturity is the extent to which processes are explicitly defined, managed, measured, controlled and effective. Maturing processes imply a growth in capability and indicate both the richness of the organization's processes and the consistency with which they are applied throughout the organization (Looy et al., 2011). The process maturity concept has been developed and verified considering the software development process (Harter et al., 2000) and the process of the project management (Ibbs and Kwak, 2000).

A maturity level refers to a level of organizational capability created by the transformation of one or more domains of an organization's processes. It is evolutionary plateau that serves as a stepping stone for achieving a mature process culture (Rendon, 2008). By Object Management Group, Inc. the BPMM is divided into five maturity levels that represent different states through which an organization is transformed as its processes and capability are improved. These stages of maturity include (OMG, 2008):

- Level 1: Initial — wherein business processes are performed in inconsistent, sometimes ad hoc ways, with results that are difficult to predict;
- Level 2: Managed — wherein management stabilizes the work within local work units to ensure that it can be performed in a repeatable way that satisfies the workgroup's primary commitments. However, work units performing similar tasks may use different procedures;
- Level 3: Standardized — wherein common, standard processes are synthesized from best practices identified in the work groups and tailoring guidelines are provided for supporting different business needs. Standard processes provide an economy of scale and a foundation for learning from common measures and experience;
- Level 4: Predictable — wherein the capabilities enabled by standard processes are exploited and provided back into the work units. Process performance is managed statistically throughout the workflow to understand and control variation so that process outcomes can be predicted from intermediate states;
- Level 5: Innovating — wherein both proactive and opportunistic improvement actions seek innovations that can close gaps between the organization's current capability and the capability required to achieve its business objectives.

Each mentioned process area is designed to achieve specific goals in creating, supporting, or sustaining the organizational state characteristic of the level. Any attempt to skip maturity levels is counterproductive, since each level forms a ground work from which to achieve the next level (Paunescu and Acatrinei, 2011). Each process area consists of a collection of integrated best practices that indicate what should be done, but not how it should be done. Thus, organizations are free to define their own methods and approaches to satisfying the goals and objectives of each process area.

The Empirical Characteristic of Business Process Maturity in Polish SMEs Sector

Research Description and Methodology

The presented empirical data in this article constitute a part of the empirical studies conducted, identifying enterprises' orientation on BPM. The survey was conducted in 2015 on a group of 138 enterprises classified, according to the size of employment, as small, medium-sized and large enterprises. The micro-enterprises (up to 9 employees) were excluded from the analysis, due to the fact that business processes are often poor and unstructured in such entities. At the same time the study of large enterprises has been done to compare the results to the SME sector. The survey should be treated as a seed research, identifying correlations which should be confirmed in fully representative studies in future.

The main aim of this article is to identification and analysis of business process maturity in small and medium-sized enterprises in Poland as well as finding the areas that require the intensification of process management.

Taking into consideration the main aim of this paper, the following research hypothesis has been put forward:

H1 - business process maturity in SMEs sector is on the average level and it grows with the increase in the size of an enterprise.

Business Process Maturity of Small and Medium-Sized Enterprises in Empirical Studies

Process maturity assessment in the organization can be defined in various ways. To the need to this article, maturity levels were modified to the requirements of the specific nature of the SME sector. Process maturity of the surveyed companies was determined using a 5-point scale, where 1 would mean a very low level of process maturity and 5 – fully developed process maturity (Fig. 1).

The method of process management in the enterprise has been tested in selected areas of activity of SMEs. In each main field, 5 to 18 detailed areas were evaluated and the results were averaged for the main area.

Analyzing the results of the survey, it can be concluded that the process maturity of Polish SMEs has been assessed by the entrepreneurs above average (2.5), but there are variations between individual areas (Fig. 2: Presented results are a part of market survey conducted by M. Okřęglicka and A. Lemańska-Majdzik in 2015). The highest process advancement is visible in the area of finance and marketing, production and sales. In turn, the lowest level recorded in the area of risk management, which seems reasonable, due that we are dealing with small business entities. In addition using Kendall's tau correlation coefficient, a statistically significant relationship between the size of the company and the level of process maturity was observed.

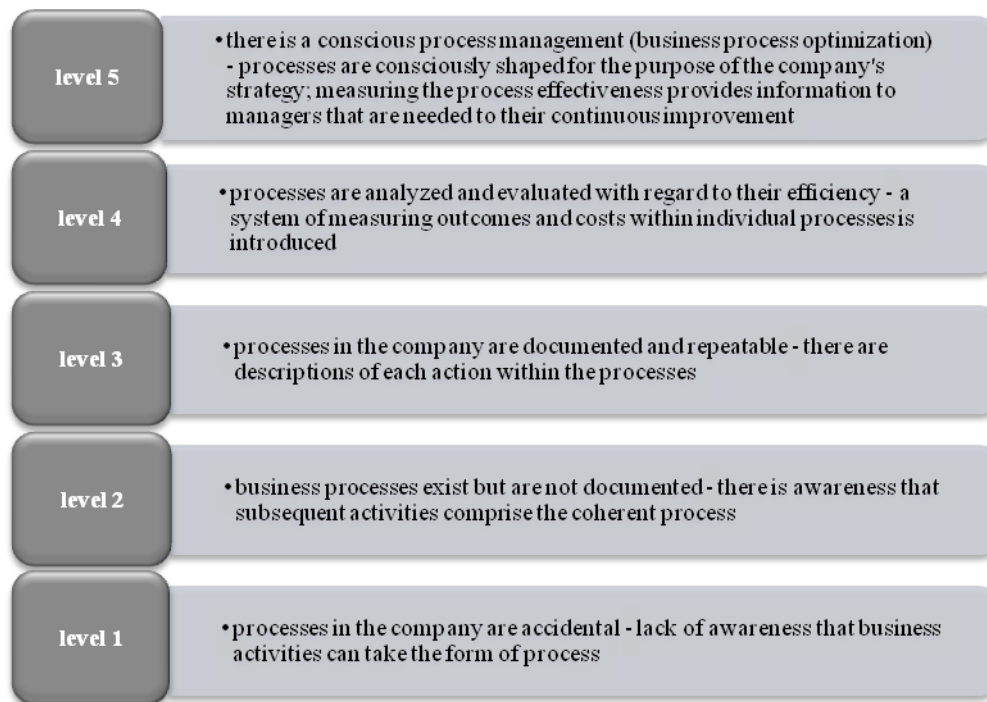


Figure 1. Process maturity levels used in research

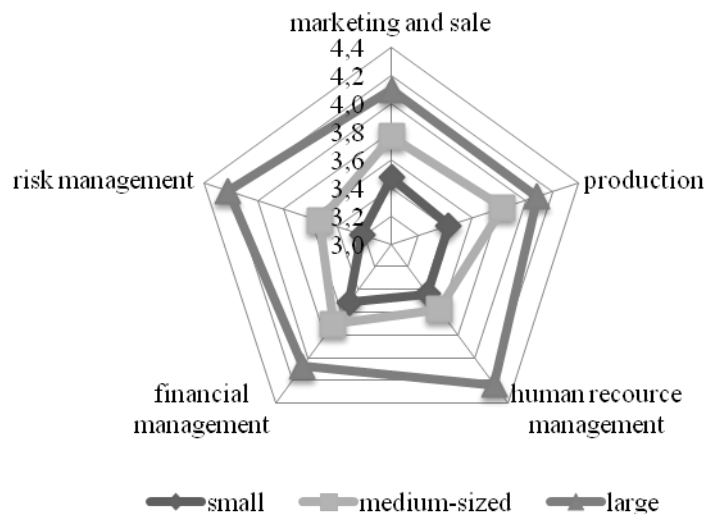


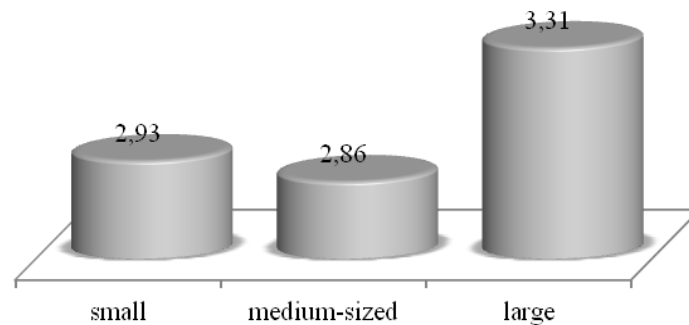
Figure 2. Business process maturity in selected activity areas of Polish enterprises

The correlation has positive character and that means the bigger enterprise is the higher level of process maturity has and the differences are clear visible.

It should be stressed that differences in process maturity between SMEs and large enterprises are not the same in every area of activity and the strongest are in the area of risk management and human resources management.

After evaluating the current status of SMEs process maturity, the identification of potential changes in the future was provided. The aim was to assess whether small and medium-sized companies are focused on process management and whether the process orientation is different here compared with large enterprises.

Surveys have confirmed that focus on the management of process management in SMEs differs from that in large companies (Fig. 3).



Kendall's tau = 0,1454, p = 0,0108

Figure 3. Forecast to increase process maturity through emphasis on the management related to the identification, implementation and verification processes in enterprises in the next 3 years

The desire to deepen the process approach (in a scale from, 1 - definitely not to 4 – definitely yes) was significantly higher in large companies than in small and especially medium-sized companies. Only large companies plan to improve the business process maturity in the period of 3 years. SMEs seem to be undecided, so this area isn't for them the priority.

Identifying the determinants of business process intensification, several factors had appeared, including: increased knowledge about the rules and benefits management process, improving the financial results of the business, extending the company's business profile (new markets, new products) or the employment of more specialized / with higher levels of knowledge employees – described as important by the respondents. This kind of knowledge can be useful in preparing the tools (including institutional ones), promoting the professionalism in process management.

Conclusions

Each element of the activity of an enterprise, creating an element of the consistent process, should be subject to an effective management, regardless of industry, business experience or size of the company. The researches show that generally SMEs don't show a greater tendency to include elements of process management in their strategy of action.

The main aim of the survey conducted on a group of enterprises carrying out business activity in selected region of Poland was to identify and analyze of business process maturity in small and medium-sized enterprises as well as finding the areas that require the intensification of process management. The research hypothesis stated in the article was generally confirmed, that business process maturity in SMEs sector is on the average level and the level of process maturity grows with the increase in the size of an enterprise.

Among detailed results from the questionnaire survey shows, there may be mentioned:

- the size of an enterprise matters during process management, that is the bigger enterprise is, the more advanced is the way of process management i.e., process maturity,
- the strongest difference of process maturity between SMEs and large enterprises is visible in the area of risk management and human resources management – it's the area for improvement for SMEs,
- large companies want to increase the emphasis on process management in the next 3 years to a much greater extent than SMEs.

The importance of process management for success of the organization encourages to successive and in-depth research that will help to identify opportunities and constraints to the development of the area.

There are many articles concerning business process maturity of enterprise, but only a few relates to SMEs. Among the similar works in this field may be mentioned e.g. a researches conducted by de Oliveira and Kaminski (2012) on industrial SMEs from Brazil or by Jochem, Geers and Heinze (2011) in Germany. From this perspective, we think it's worth considering conducting similar studies on a bigger population in the future to identify regularities and present recommendations to small and medium-sized enterprises.

We plan to focus on processes maturity in the financial management area and the risk management area as not well recognized in literature. The strongest limitation of present research is the unrepresentative research group, so the challenge for the future is to create and realize the fully representative research in the area of process management and process maturity in Polish SMEs.

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DOJRZAŁOŚĆ PROCESÓW BIZNESOWYCH W MAŁYCH I ŚREDNICH PRZEDSIĘBIORSTWACH

Streszczenie: Zarządzanie procesami biznesowymi w przedsiębiorstwie jest podejściem do zarządzania, które koncentruje się na optymalizacji sposobów, w jakich przebiegają procesy biznesowe w organizacji. Dojrzałość procesów biznesowych w organizacji jest jednym z czynników sukcesu. Z tego punktu widzenia ciągle pogłębianie poziomu dojrzałości procesów jest istotnym zadaniem ekonomicznym i obszar ten jest nadal ważnym zagadnieniem wymagającym badania. W artykule przedstawiono wyniki badań empirycznych - badanie zostało przeprowadzone w 2015 roku na grupie 138 przedsiębiorstw w Polsce. Głównym celem niniejszego artykułu jest identyfikacja i analiza dojrzałości procesów biznesowych w małych i średnich przedsiębiorstwach w Polsce, jak również znalezienie obszarów, które wymagają intensyfikacji zarządzania procesami.

Słowa kluczowe: dojrzałość procesów biznesowych, BPM, małe i średnie przedsiębiorstwa, MŚP

業務流程成熟中小型企業

摘要：業務流程管理在企業中是一種管理方法，集中於優化的方式業務流程，組織的運行。該組織的業務流程成熟度是成功的因素之一。從這個角度看，不斷推進過程中的成熟度是相關的經濟任務，該地區仍然需要調查的一個重要問題。本文介紹了實證研究的結果。調查是在2015年對一組138企業在波蘭進行。本文的主要目的是識別和業務流程成熟度分析，中小型企業在波蘭，以及發現需要將過程管理的加強等領域。

關鍵詞：業務流程的成熟度，BPM，中小型企業，中小企業。