Chapter 11
Multi-Criteria Decision Making Approach for Choosing Business Process for the Improvement:
Upgrading of the Six Sigma Methodology

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ABSTRACT

Dynamic and global environment, does not offer a spot for managers that improvise and make business moves without relevant information. In order to gain relevant information, it is necessary to observe processes through which value is generated. This implies adoption of process orientation and, based on it, business process management, as a way of running a business. Useful concept for operationalization of business process management is the Six Sigma. One of very important managerial decisions under the Six Sigma concept implementation concerns choosing the process for the improvement. Very often managers must take into the account subjective data, based on their opinion and experience, as personal impression. However, subjective data may become objective when adequate tools and methods for the analysis are used. Quantification is necessary for making decisions and, also, for tracking the results of their implementation. Beside statistical, significant information may provide methods from multi-criteria decision making.

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INTRODUCTION

Improving competitive posture involves increasing quality of products and services, quality of their design, faster production and delivery, adaptation to new or renewed requirements of customers or actions of competitors, while minimizing costs at the same time. Accomplishing all these will provide customers satisfaction and consequently their loyalty. This requires optimisation of business processes, bearing in mind, that at the same time, have to be taken into consideration issues concerning time, cost and quality.

This assumes that an enterprise has adopted process orientation and identified at least key business processes. Process orientation means that there are managers responsible for certain processes, who are supposed to continuously monitor those processes, from start to finish, through different organizational units or even through different enterprises, and constantly strive to manage them at all stages of the life cycle (Harmon, 2004). Process orientation can facilitate creating and maintaining a competitive advantage in many different ways. For example, it facilitates eliminating or decreasing delays and irrational spending of time through the elimination of those activities that do not create value, so process orientation enables reduction of time required to perform the tasks. Continual monitoring of processes represents the way for reducing the possibility for the occurrence of errors and inefficient use of resources.

Application of information technology creates numerous benefits in sense of facilitating the results' tracking, improving business processes and connecting functions and process-related partners, improving communication and information sharing, as well as collaboration of different departments and organizational levels, and faster and reliable decision-making. Process orientation enables sharing the best practices in managing business processes, which affect the quality of the process. Presence of process orientation enables increasing of profitability because it reduces unnecessary costs, investment and expenditure of time. Process orientation speeds up the process of development and commercialization of new products by encouraging continual innovation and improvement during the implementation of processes. Process orientation creates conditions for the growth (Delavari, Bandara, Marjanovic, Mathiesen, 2010) of enterprises through business expansion and possibilities to enter new markets, and easily overcomes recession in the economy because it makes it easier to reduce costs and better allocate resources and make better use of previously developed knowledge and competences.

In the enterprises with functional organization structure, often occurs a problem when it comes to the relations between functions or organizational units, because each of them concentrates only on realization of its own objectives. This leads to the creation of so-called sub-optimization effect, which indicates that some parts of the enterprise are successful, but due to a lack of cooperation and coordinated action, there is no optimization of the results at the enterprise level. Process orientation reduces the effects of sub-optimization, because it increases the level of cooperation and transparency of business processes, enabling different employees within the various functions to better understand how they contribute to creation of value for customers. This way of organizing business activities allows better understanding and meeting the needs of customers, on one hand, and increasing the participation of employees, not only during implementation, but also throughout the business process improvement, on the other hand.

Implementation of process orientation has facilitated achievement of expected business results (Harmon, 2003; Van Der Aalst, Ter Hofstede, Weske, 2003; Watson, 2004; Abdulmalek, Rajgopal, 2007; Trkman, 2010). Its systematic application, supported by adequate tools and techniques, as well as information technology, has led to the development of Business process management (BPM). Business process management is a systematic approach that helps enterprise to make significant changes in the way it does business, especially from quality standpoint, and to provide sustainable process improvement. It