Chapter 5

Business Process Management and Six Sigma:
Leveraging the Synergistic Relationship

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ABSTRACT

In this chapter, the authors establish the existence of a synergistic relationship between two complementary methodologies, Business Process Management (BPM) and Six Sigma, through literature review and suggest methods to exploit the same. Six Sigma provides incremental improvement through its analytical abilities and is complemented by BPM which provides the data from the ongoing processes on a real time basis. The authors discuss two perspectives on how to synergize these methodologies. Firstly, achieve hybrid BPM-Six Sigma by substituting Improve and Manage steps of BPM with the DMAIC of Six Sigma methodology. Secondly, utilize Six Sigma methodology for analysis on data generated by BPM. The application of the integration of BPM and Six Sigma is presented through case studies from financial services companies. The authors also present the key features of BPM tools that can assist Six Sigma in every phase of its implementation.

INTRODUCTION

Business processes are valuable corporate assets since they directly support the business strategies and are to be managed and optimized just as any other business asset. Technology, mainly, Information Technology (IT) has been identified as the key enabler of Business Process Management (BPM) and process change (James, 2006; Davenport et al., 1990). It is the convergence of technology with process management that produces new process design and newer implementation approaches which gave rise to the term process enterprise (Hammer et al., 1999). In other words, process management is the concerted efforts to map, improve, and adhere to organizational processes (Benner et al., 2003). Process reengineering relies on technological advancements in automating business processes to improve performance (Brynjolfsson et al., 1996; Venkatraman, 1994). Hammer defines BPM as a structured approach to performance improvement that is based on disciplined design and careful execution of organization's end to end business processes (Elzinga et al., 1995; Hammer, 2002; Hammer et al., 1999). This leads us to the natural conclusion that BPM has close relationship with process focused management techniques namely, BPR, Six Sigma and many other similar process management concepts and technology tools.

The existence of software platforms for BPM, can also be made use of for implementing Six Sigma through the incorporation of few additional modules. The complementary nature of BPM, in improving business performance, and Six Sigma, in improving quality through its analytical capabilities, and their availability in the same software environment has set the stage ready for exploiting their synergistic relationship.

In fact, Business Process Management Systems (BPMS) can be thought of as supporting a unifying framework, of many earlier management techniques including Six Sigma, that provides business data and analytics for the management of business processes (James, 2006). This has led to the concept of digital Six Sigma as explained in one of the forthcoming sections.

In this chapter we explore the synergistic relationship between BPM and Six Sigma. We first define and describe BPM in terms of managing a process at three levels namely enterprise, process and technology. Six Sigma is then defined and we discuss the need for integrating it with BPM. We explore two approaches for integrating BPM with Six Sigma and then introduce the concept of Digital Six Sigma. We present two case studies that have successfully demonstrated the exploitation of the synergy between Six Sigma and BPM. We identify some of the features of a tool that can support the integration of BPM with Six Sigma. Finally, we conclude with suggestions for future work in this area.

BUSINESS PROCESS MANAGEMENT (BPM)

In the 1990s, Hammer and Champy promoted the idea that in order to lower costs, increase quality and to be competitive, organizations must redesign their processes. With this notion, Business Process Reengineering (BPR) came into existence (Hammer et al., 1993). The emphasis was on using IT as an enabler for the change as it brought in dramatic improvements. Additionally, rather than make incremental improvements the focus was on "wipe the slate" approach which often led to very complex and large projects which were difficult to manage and deliver. Another negative aspect of BPR was that it did not emphasize the need for incremental improvements through process performance feedback.

In early 2000, Business Process Management (BPM) emerged and became very popular within the next five years. Business Process Management is a discipline at the intersection between management and IT, encompassing methods, techniques and tools to represent, model, design, analyze,

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