Building the Agile Enterprise with Service-Oriented Architecture, Business Process Management and Decision Management

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ABSTRACT

Organizations are permanently confronted with the need for adaptation to a complex business environment that is in a continuous change and transformation. Thus, the organization’s agility represents a key element in obtaining the strategic advantage and the market success. The paper analyzes the connection between the Service-Oriented Architecture (SOA), the Business Process Management (BPM) and the Decision Management, as well as the way in which these modern approaches contribute to obtaining organization agility. The main changes determined by the organization’s service orientation, changes that are necessary for the success of the transition to the agile organization, are also identified and presented within the paper. Obtaining and maintaining agility implies the existence of an agile architecture at the level of organization. For that matter, the final part of the paper analyzes the creation of an organizational architecture based on standards and oriented on services. Four relevant approaches have been selected, which joined may lead to obtaining an agile enterprise architecture, namely: SOA, Cloud Computing, BPM, and Decision Management.

Keywords: Agile Enterprise, Business Process Management, Decision Management, Information Systems, Service-Oriented Architecture, Service-Oriented Enterprise

INTRODUCTION

Under the conditions of digital economy and of adoption on an increasingly larger scale of tactical and strategic management (beside operational management) within organizations, increasing business agility becomes an obvious objective, with real chances of becoming imperative at the level of enterprise. The increase of business agility is attractive to all organizations, mainly for those in the private sector. It will enable the rapid and efficient adaptation to the market changes and the gain of the strategic advantage as well. Moreover, the increase of agility contributes to the reduction of time development of certain new processes and to the increase of flexibility of the already
existing processes, as regards their modification and implementation. All these aspects lead to the decrease of time for the resolution of customers’ requests, to the increase of number of customers, to law costs of adaptation and finally to the increase of the organization’s income.

Under the circumstances of a complex environment that changes continually, the organization’s agility is no longer a necessity but a condition for its penetration and maintenance on the market. An agile enterprise rapidly adjusts to the customer’s requests and to the market opportunities obtaining the competitive advantage on the market. This can only be accomplished if the organization’s operation mode is well understood by its stakeholders. Moreover, the agile enterprise entails agile architecture in order to react rapidly to the changing requests.

From the point of view of informational systems, we will emphasize three major approaches/technologies: Business Process Management (BPM) for independent functions orchestration, Service-Oriented Architecture (SOA) for the projection and implementation architecture of these functions and Decision Management (DM) for the organization’s decision management. The paper points out the connection between the three approaches and the way they may lead to obtaining a superior level of organization agility and flexibility. The paper also analyzes the changes generated by SOA on the enterprise, with special focus on management, and it presents the elements of service-oriented enterprise architecture, with a special focus on the agility feature. Migrating to an agile enterprise requires knowledge regarding:

- Obtaining business agility through modern approaches/technologies. The key to business agility is Service-Oriented Integration (SOI), and the key to SOI is the SOA (Bloomberg, 2002). SOA is being used by organizations for becoming more agile and flexible in order to adapt dynamically changing business environments. BPM has proved its efficiency in reconfiguring processes in order to obtain their agility. DM supports the automation of decisions and allows business policies to be moved into a central repository. This primarily leads to consistent and better-established decisions and secondarily to the increase of the organization’s ability to respond to the changes and opportunities of the market. In order to obtain agility one needs the necessary knowledge regarding the way SOA, BPM and DM may lead to organization agility increase and innovation achievement.

- The changes of service-oriented architecture on enterprise. Change determination of SOA on enterprise is an essential condition for the transition’s success to service-oriented environment. The research made until now in the field of management and service-oriented technology led to a series of managerial recommendations with the goal of increasing the value of business using service-oriented technology (Mircea & Andreescu, 2009). There have also been proposed elements of change in management and adjustment of business functions to service-oriented technology. We are presently facing the need of creating an environment for the adjustment of enterprise to service-oriented technology. The nature of business activities may critically determine the success of the services’ paradigm.

- The service-oriented enterprise architecture. Agility maintenance supposes an appropriate management of enterprise architecture. It is necessary as the enterprise architecture represents the basic element that allows the achievement and support of the organization’s strategic objectives. At present, there are a limited number of enterprise architectures, architectures of systems of applications and performance analysis environments for service-oriented environments. In addition, development methodologies, performance analysis and optimization models for service-oriented enterprises/networks of enterprises are rare and not very systematic.

The element of novelty resides in the creation of an architectural model for service-
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