SERVICE-ORIENTED BUSINESS PROCESS MANAGEMENT

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Abstract: This paper deals with the role of the concept of services in the area of Business Process Management and Reengineering. It describes the process of the Business Processes System Design which is a part of the Methodology for Business Processes Analysis and Design. The paper argues in support of thinking in terms of services as being much more useful and the general principle to be limited to the area of technology and software systems development only.

1 INTRODUCTION - BUILDING PROCESS MANAGED ORGANIZATION

This paper describes the process of the Business Processes System Design which is a part of the Methodology for Business Processes Analysis and Design – MMAPB. The design technique covers the whole process from the identification of the basic activities to the design of key and supporting processes as late as the building of the resulting infrastructures. The tools used by the methodology are based on common standards BPMN (BPMN, 2006), UML (UML, 2004), and Eriksson/Penker Notation (Eriksson and Penker, 2000). The root of the methodology is defined in the formal meta-model (Repa, 2000) as a part of the development project OpenSoul (OpenSoul, 2000). The key ideas of the modelling method are described in (Repa, 2008), and (Repa, 2004).

A very important tool in the structuring of the processes is the principle of services. It allows us to discover the basic supporting processes in the bodies of key processes, their clarification with the exact definition of the interfaces between processes, and, finally, the exact definition of the needs and possibilities of the supporting infrastructures.

The paper argues in support of thinking in terms of services as being much more useful and the general principle to be limited to the area of technology and software systems development only. The first complete explanation of the idea of process management as a style of managing an organization has already been published (Hammer and Champy, 1993). The authors excellently explain the historical roots, as well as the necessity, of focusing on business processes in the management of the organization. The major reason for the process-orientation in management is the vital need for the dynamics in the organization's behaviour. It has to be able to reflect all substantial changes in the market as soon as possible. The only way to link the behaviour of the organization to the changes in the market is to manage the organization as a set of processes principally focused on customer needs. As customer needs are constantly changing, the processes in the organization should change as well. That means that any process in the organization should be linked to the customer needs as directly as possible. Thus, the general classification of processes in the organization distinguishes mainly between:

- Key processes, i.e. those processes in the organization which are linked directly to the customer, covering the whole business cycle from expression of the customer need to its satisfaction with the product / service.
- Supporting processes, which are linked to the customer indirectly - by means of key processes which they are supporting with particular products / services.

Whilst the term ''key process'' typically covers whole business cycle with the customer - it is focused on the particular business case; the supporting process is typically specialized just to the particular service / product, which means that its product is more universal - usable in a number of

business cases. This approach allows the organization to focus on the customers and their needs (by means of the key processes), and to use all the traditional advantages of the specialization of activities (by means of the supporting processes) at the same time. Key processes play the crucial role - by means of these processes the whole system of mutually interconnected processes is tied together with the customers' needs. Supporting processes are organized around the key ones, so that the internal behaviour, specialization, and even the effectiveness of the organizations' activities are subordinated to the customers and their needs.

Such a view of the behaviour of the organization is quite different from the traditional one. Mainly, the key processes represent an unusual view of communications and collaboration within the organization. In traditionally managed organizations the organization structure reflects just the specialization of work; it is static and hierarchical. The concept of key processes brings the necessary dynamics to the system – key processes often change according to the customer needs, while supporting ones are relatively stable (the nature of the work is relatively independent of the customers' needs). At the same time, the key processes represent the most specific part of the organizations' behaviour, while the supporting ones are more general and standard. Thus, the supporting processes are the best candidates for possible outsourcing while the key ones should be regarded, rather, as an essence of the market value of the organization. So, we have a system of processes with very different "speeds". To ensure the necessary communication among them, we need to have the interface working like a differential gear. Firstly, we need to define the parameters of each connection point of two processes with respect to both sides of this relation – as the service offered by the supporting process to the supported one. This way the idea of a process managed organization perfectly fits the idea of the service-oriented structure of a system.

2 THE PROCEDURE

Figure 1 expresses the procedure of the business processes system design as a set of succeeding / parallel steps.

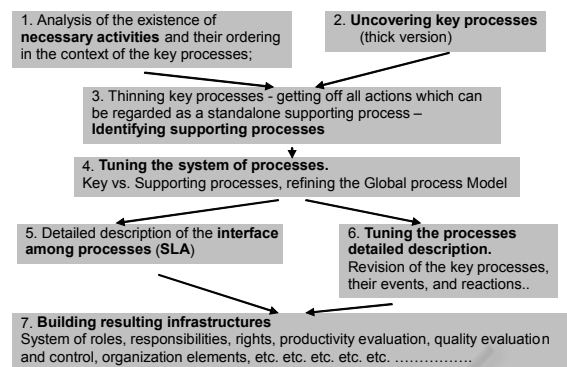In following paragraphs, some details of the particular steps are described.

Figure 1: Procedure of the business processes system design.

2.1 Step 1: Analysis of the Existence of Necessary Activities

In this step, the basic natural sequences of activities are revealed. The main subject of interest in this step is the natural succession of activities in the regular form as people know them, work flows, legal procedures etc. These sequences of activities serve in later steps as the basis for revealing the proper structure of the process system. Necessary activities (and their basic causal consequences) form the basis of the supporting processes. At the same time, they are the roots of the key processes as well. Thus the given set of natural activity sequences will be restructured in order to identify the key and supporting processes.

2.2 Step 2: Uncovering the Key Processes

The aim of this step is to show the key processes. Each key process represents, in fact, the way of achieving the key type of product. The structure of the key process can, thus, be derived from the life cycle of the key product, as a final result of the process. The key process is a process by which the organization realizes some external value – value for its customers.

For example, it is obvious that the key product of the university is education. That means that the key process of the university is the education process. On the other hand, the key product of the university is obviously not the Study program accreditation as it does not realize any external value in itself – it rather helps the key process; 'education'; to realize the value of education.

In the first version of the model, the key processes naturally contain a number of supporting activities and sub-processes (contextually). It is the

important task for following steps to free key processes of all supporting activities (see below).

2.3 Step 3: Thinning Key Processes

Every key process is naturally "long" because it covers the whole business case from the identification of the customer need till the satisfaction of this need by the product (service). As a result, the previous step has shown that the key processes are also "thick" – they contain a number of supporting activity chains. This step strives to remove, as much as possible, the supporting activities from the key processes. We are speaking about the "thinning" of the key processes.

All action chains which can be regarded as supporting chains, arise from the key processes on the principle of „outsourcing" them into standalone supporting ones (even, possibly, outside the organization): Any relatively standalone, continuous, homogenous, and generalizable part of the process will be removed from the key process, generalized, and established as a supporting process. As a result of this removal some control activity (managing the supporting service delivery) remains in the key process in the original place of the removed supporting activity chain.

In the step 5, the interface to the original (mother) key process will be described including the basic parameters of the product / service (see the principle of SLA below).

2.4 Step 4: Tuning the System of Processes

After thinning the key processes it is necessary to rework and elaborate models in detail, and complete the structure of the Global process model. In the previous step, new supporting processes were discovered, and the structure of each key process was simplified, consequently. The content, as well as the structure of the Global process model, has been changed and new interfaces among the processes have been created.

2.5 Step 5: Detailed Description of the Interface among Processes

Interfaces among processes, which have arisen in the previous two steps, must be elaborated in detail. Great attention should be paid to the interface among key and supporting processes.

In this step, every interface is described in the form of „SLA" (Service Level Agreement – see following paragraph for details).

2.6 SLA (Service Level Agreement)

Under the term SLA, we mean an analogy to the Service Level Agreement widely used in outsourcing relationships. This form of agreement represents the universal view of any co-operation interface. This view is naturally compatible with the need for financial evaluation of services, building the system of productivity and quality metrics, etc. Every SLA should contain:

- Product description (service characteristics, its meaning, value, sense);
- Basic product parameters in measurable units;
- Product quality metrics (how to measure quality as a general product attribute);
- Product "price" which reflects the necessary costs of the supporting process or offered service.

In fact, such a description of the interface between two processes represents the real business agreement of these processes. It means that there is no difference between the "internal" (see step 3 above), and the real, outsourcing. Thus, this way of thinking perfectly prepares the situation for the possible outsourcing of all supporting processes where it is suitable.

2.7 Step 6: Tuning the Processes' Detailed Description

Parallel to step 5, the revision of the key processes run, their events, reactions, and tuning of this description with the Global model, should be performed. Models are completed with actors, inputs, outputs; and overall revision of the Global model of processes is made in this step.

2.8 Step 7: Building the Resulting Infrastructures

The final step of the procedure represents the interface to the subsequent activities of the organization building process. This step consists of the elaboration of the process interface in order to analyze the possibilities for realizing the service which the supporting process represents (the supplier part of the SLA).
Activities of this step lead to the creation of both main infrastructures:

- the basic requirements for the organizational infrastructure are analyzed with the definition of roles, their responsibilities, communication procedures, and other organizational aspects which follow on from the mutual competencies of both attendees of the business relation represented by the SLA;
- Similarly, the technical infrastructure needs can be specified this way (necessary production and workflow technology support, as well as the necessary Information System services).

3 CONSEQUENCES AND CONCLUSIONS

This paper discusses the concept of services in the light of Business Process Management and the Reengineering phenomenon. The paper just outlines some basic contingencies which follow on from the inspiration by the theory of services in the area of process management. It points out the significant similarities among different areas of possible application of the "service-oriented thinking", such as software development, process management, outsourcing, etc. It also points out the obvious convergence of all these phenomena – outsourcing as an original area of the SLAs is the principal way of recognizing the substantial differences between the key and supporting processes which, at the same time, directly corresponds to the need to tie the system of business processes in with the enterprise strategy on one hand, and with the supporting technology on the other hand.

The basic conclusion from the previous paragraph is: the concept of services should be regarded as a general principle for recognizing the interface between two substantially different areas connected with some common sense. This paper shows how this concept works as a guide for specifying the interface between the various types of processes (key versus supporting ones) which differ mainly in the reasons and "speed", and are mutually asynchronous. It also shows how this principle can be used for specifying the interface between the system of processes and supporting infrastructures (technology as well as organization). A similar area of application of this principle is the interface between the strategic activities and process management of the organization which is not presented in this paper. This interface is the main subject of the work of R.Kaplan and D.Norton

(Kaplan and Norton, 2004). Their theory could be also significantly extended this way.

SLA, as a principle, rather than a universal way of defining details of this interface – measurable parameters of the service.

The paper also describes basic procedure for analyzing and designing the system of business processes in the organization with respect to the consequential activities (Building the resulting infrastructures). In this way, it outlines what should be an area of future development of the methodology.

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