Local Governments-specific BPR mini-project with SAP applications

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Abstract—Local Governments use multiple IT methods and tools to provide services required. Chosen business processes and software products should certainly provide suitable and reliable applications for long term. Nevertheless, due to the sudden change and improvement of IT Technology, some solutions become obsolete and those should be replaced sooner or later. However, as sustainability is requested in Local Governments, such changes have to be handled carefully. A new Business Process Reengineering, BPR, methodology is being built to support Local Governments-specific IT change and technology management. This paper introduces our methodology applied to an initial SAP business process implementation project. A mini-SAP project is defined to complete the so-called Business BluePrint phase of SAP ASAP Methodology. This approach is found to be suitable to support the Local Governments BPR project.

Keywords: Local Government, BPR, ERP, SAP, Technology management.

I. INTRODUCTION

Finding a suitable methodology for proper coordination of business processes and services is an essential goal for Local Governments. Focusing on Business Information Technology, one can find several different approaches, tools and solutions. Usually, there are heterogeneous business platforms, architectures and toolsets can be found parallel for complex Local Government processes. Enterprises, Governments should certainly replace obsolete methods and tools applied with standard and reliable solutions. A possible way for such Organizations to improve services is choosing and implementing a standalone ERP System that can provide all business functions necessary for Local Governments. On the other hand, existing Government operations should go on successfully as long as the ERP System implemented has not been tested thoroughly. This paper presents the scope (Business BluePrint) of ERP implementation. First, we are implementing SAP Business One for covering the entire business of our Local Government. After testing the functionalities it will be used and applied.

SAP, the leading ERP software in the World was announced in 1971 with its first version, SAP R/1. In 1972, SAP R/2 was announced, which become a real enterprise resource planning system. It supported core business functions, like financials, controlling, human resources, logistics. Its architecture was an IBM mainframe, in which huge and efficient SAP programs SAP R/3 applied a nice graphical user interface to navigate and work in the system. Throughout its multiple versions, through 2.1 to 4.6 D, Business Suite with Netweaver announced the service-oriented architecture as its new concepts. SAP Business One was introduced in 2002 [4-5], as a enterprise resource planning system for small and medium sized companies. The software is to assist companies by providing support for sales, customer relationships, inventory, operations, financials and human resources.

II. EXISTING BUSINESS PROCESSES FOR LOCAL GOVERNMENT

The main focus is on the SAP Business One implementation of the Service Directorship (as a standalone company) of a Hungarian City Municipality (Székesfehérvár). The key processes had to be identified first. This directorship manages the public places and publicly owned areas, as well as deals with the public roads, bridges, green areas etc. owned by thy City Municipality of Székesfehérvár. In the meantime, the company performs some minor investment project. The functionality of the company is complex, so are the
business processes. This company is a fairly big one, according to the publicly owned companies connecting to City municipality of Székesfehérvár.

A. Business Process Repository

Let us take a look at the Business Process Repository in SAP Solution Manager [3]. This SAP Solution Manager provides content of the offered SAP solutions in a form of realized business scenarios, business processes and process steps. Instead of building up the business blueprint always from scratch, the available Reference Content from SAP Solution Manager can be reused to provide a business blueprint which is synchronous with the used SAP solutions in the project, Fig.1. shows the proper screen.

Figure 1. BPR overview in SAP Solution Manager.

The Business Process Repository is accessible within SAP Solution Manager via Web Dynpro transaction SM_BPR_OVERVIEW. It provides a central overview of the available Reference Content structured both by organization areas and available solutions respective applications and underneath by business scenarios, business processes and process steps.

Figure 2. BPR download into business blueprint.

A business process with all its process steps is downloaded from BPR into the business blueprint. It is possible to adjust the business blueprint afterwards according to the business needs. New business scenarios and business processes can be added manually into the business blueprint or the downloaded business processes from BPR can be adjusted by deleting or adding some process steps. The synchronization with ARIS works as described in the section Synchronization with the Solution Manager.

Figure 3. Example of SAP CRM business Process

The idea to build industry specific content for reuse purposes is not limited to SAP. Other reference content can be found for example on the homepage of the American Productivity and Quality Center APQC [11]. Developed by APQC and member companies is intended as an open standard to facilitate process management and benchmarking regardless of industry, size, or geography.
The PCF organizes operating and management processes into 12 enterprise-level categories, 62 process groups and over 1500 processes and associated activities. The PCF and associated measures and benchmark surveys are available for download at no charge at www.apqc.org.

B. Identifying the processes which need modification

The following major processes need some modification before implementing in SAP Business One:

1. Handling of contracts
2. Storno invoices
3. Processes for inner orders

These processes were handled by the former software, but with the invention of SAP Business One they had to be modified. This modification is done by external consultants with the aid of the professionals of the directorship.

III. BUSINESS PROCESS RE-ENGINEERING

In order to overcome the needs of BPR which remarkably require a long process, SAP has developed an implementation methodology to speed-up the whole process by instantly implementing principals which has been underlined by SAP business process recipes. SAP as a major ERP developer providing a considerable solid collaborated system has came up with an instant process to simplify its implementation. Accelerated SAP as a part of TeamSAP and SAP’s is a comprehensive solution which capable to handle continuous change by optimizing time, quality and efficient use of resources

Three main components of ASAP

- ASAP’s Roadmap

Roadmap is consist of project plan, detailed description on what to do, how to do, why doing it and ultimately underline the level of urgency of each individual processes. In here, detailed project management and individual roles of each business component are clearly identified and finalized (General SAP Roadmap).

Five stages of ASAP’s Roadmap are (General SAP Roadmap):

Project Preparation

In this phase, project leader or key executives will define clear project objectives and the whole decision making mechanism. Documentation plays an extremely important role in this phase; every predicted or unpredicted tasks and events will be documented as well as uncompleted tasks which require more attention. Both internal and external issues need to be documented as well.

Business Blueprint

In this phase scope of the SAP implementation is clearly decided and defined. Selection of business module or function which need to be implemented and all business requirements are detailed and documented as Business Blueprint. There are various tools which may be used in this phase including:

1. ASAP Implementation Assistant
2. Q&A Database
3. Business Process Master List (BPML)
4. SAP Structure Modeler and
5. Business Navigator

Another critical activity described in this phase of implementation is Project Management which include:

- Conduct meeting for project team and committee meeting
- General project management
- Describe any issues related to business change management realization

This is the phase where the actual SAP is installed and configured. The configuration is consist of two steps:

Baseline configuration

At this step, the company requires to clearly identify, plan, schedule and monitor the SAP configuration including monitoring and testing the whole installation process.

Final configuration

At this step, project manager is checking the status of system, completeness and readiness of the system by conducting independent quality audit both internally and externally.

Final Preparation

The aim of this phase is final preparation of SAP system before going live in real production area. Included in this phase are testing, end user training, overall system management and finalizing company readiness to go live. All the processes during this phase will be monitored by project manager. Also in this phase, the system will be handed over to the individual user who will actually run the system in day-by-day basis. Those users will be prepared by providing adequate training specifically design for their job.
Manuals and user documentation are also prepared to help the end user in operating the new system as well as disaster recovery plans are prepared and implemented.

Go Live & Support

This is the phase where the whole system go live in production processes and will be supported by SAP experts who will analyze the system performance (EarlyWatch) and monitor thoroughly the progress of all activities.

ASAP’s tools

There are various tools provided by SAP to help company to “implement effectively and cost efficiently”. Some of the packages listed below are used for configuration of business processes. Project Estimator: tools to estimate required resources, costs and time frame. Concept Check Tool

ASAP’s services and training

SAP services and training includes all training, consultation and support service i.e. EarlyWatch, remote upgrade and backup.

BPR and ASAP are built for a similar purpose, that is as a method to implement a new system, however, they are based on completely different approaches. While BPR requires deep analysis on the existing system as well as the new system, ASAP is mainly ignoring the current system. All ASAP does is enforcing the business to use SAP’s own methodologies. ASAP assumes that the company is working on an extremely tight timeframe and there is no major BPR required. ASAP main concern is to prevent companies from developing their own “reengineering” whilst thousands of other companies worldwide had already done so. By providing what so called “the best business practice”, SAP expects no more time and resource wastage during its system implementation and all negative affects can be minimized. Even though both BPR and ASAP system interact differently, the main concept of ASAP is still based on BPR. ASAP itself is a the best of business process engineering which has been clearly documented and fulfill universal rules of business practice. By using ASAP, company is no longer need its own major BPR, however some minor issues throughout SAP implementation are still require adjustment or reengineering in some sort.

IV. ERP WITH SAP BUSINESS ONE FOR A PUBLICLY OWNED COMPANY

There were two possible implementation method for the organization:
- ASAP,
- SAP Business One Starter Kit.

The implementation of SAP was made by the ASAP timeline, according to the specific issues of the organization.

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A BPR approach method as described in Bancroft [6], consist of the following steps: choosing a process, understand it to the extend needed, redesign it, implement the change. Not just the three processes needed a redesign, but the connecting regulations should be replaced as well. A BPR intervention is not merely the adaptation of an SAP system or the business processes of an organization, it implies changes in the way of doing business as well as on the structure and culture of an organization; it is changing the way of working of an organization and the process-oriented vision that organization needs to integrate. In essence, understanding the existing business processes is one of the key elements in ERP implementations. Implementing an ERP system involves reengineering the existing business processes to the best business process standard. ERP systems are built on best practices that are followed in the industry domain.

SAP Business One software is the SAP solution for a small business, which seeks to gain control over operations by increasing visibility into the supply chain, automating key production processes, tracking compliance. Service Directorship of a Hungarian City Municipality needed complete support for:

- Managing sales, production, and purchase orders including bill of materials for accurate allocation of raw materials to products
- Material requirements planning for multilevel production processes
- Visibility and reporting on materials and inventory across the production chain preventing material shortages
- Administering after-sales support including warranty and service contracts
- Tracking and reporting on regulatory compliance – and on progress against industry key performance indicators (KPIs) or benchmarks
Handling of contracts: this change was necessary, because SAP's structure is much stricter than the old version. The order has to be the following, and cannot be modified:

1. contract
2. act of acceptance
3. invoice
4. transfer

These changes lead to a lot of changes in the work processes of the organization as well.

Accounting: The former system, used by the organization, could adapt a storno invoice easily. SAP Business One this process had to be modified, because a more stricter way of handling invoices was introduced.

Controlling, inner orders: Controlling provides you with information for management decision-making. If facilitates co-ordination, monitoring and optimization of all process in an organization. This publicly owned organization had to change a lot of inner regulations because of the different way of processes. Plan and track overhead costs within the specific structure of the organization is much more different from the previous model. Within the process of report profitability by product line, division, or other internal measurement, SAP uses a different way. The organization had to change the process of Cost Center Accounting, Activity Based Accounting, Internal Orders, Product Costing, and Profitability Analysis.

VI. CONCLUSIONS

Initial tests and analyses meet our expectations. The new ERP System, however, not only supported our existing business processes, but it gradually formed and changed business approaches. The SAP Business One project had been defined contained the following 3 redefined business processes:

A. Handling of contracts
B. Storno invoices
C. Processes for inner orders

After completing their tests, the other defined business processes should be included. According to our initial tests in the SAP Business One Test Environment, the various different business processes of our Local Government introduced in the previous paragraphs, can be successfully handled by the new ERP System implemented. Certainly, the entire tests of business and technical processes will reinforce the initial successes or refer to some neglecting solutions that can be added further on. Hopefully, as soon as we will have a standalone ERP System, due to its flexibility, new business functions can be simply added later on. A new Business Process Reengineering methodology is being built to support Local Governments-specific IT change and technology management. This paper introduces our methodology applied to an initial SAP business process implementation project. A mini-SAP project is defined to complete the so-called Business BluePrint phase of SAP ASAP Methodology. Simple user interfaces definitely support several applications in pedagogical sciences such as e-learning, mobile-learning, etc. [7-10, 12]

REFERENCES