

Does predefined ERP implementation methodology work for public companies in transitioning country?

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Abstract

The main objective of this paper is to answer a question “Does predefined ERP implementation methodology work for state owned companies in transitioning countries?” The focus will be on state owned companies from Bosnia and Herzegovina, as it is typical transitioning company. Paper will treat selected issues which could trouble ERP implementation through predefined ERP implementation methodology for SAP ERP. This paper presents observations/remarks based on experience of authors in SAP ERP implementation projects in public sector in Bosnia and Herzegovina. Author’s goal is to provide useful insight into predefined ERP implementation methodology (in theory) and issues that arise in real life ERP projects. Also, it should provide structural knowledge for all stakeholders involved in the process of ERP implementation in public sector.

Keywords: enterprise resource planning (ERP), implementation, state owned company, post socialist transitioning country, ASAP methodology

1.Challenge known as ERP implementation

Enterprise resource planning (ERP) system is a business management system which comprises integrated sets of comprehensive software, which can be used, when successfully implemented, to manage and integrate all the business functions within an organization. These sets usually include a set of mature business applications and tools for financial and cost accounting, sales and distribution, materials management, human resource, production planning and computer integrated manufacturing, supply chain, and customer information.[1]

References

1 Sheu, C., Yen, H.R., and Krumwiede D.W.: The effect of national differences on multinational ERP implementation: an exploratory study. *TQM & Business Excellence*, Vol.14, Issue 6, August, pp.641657. (2003)

So, the main feature of ERP is computer-based integration of the whole organization into one system and database. It provides higher efficiency and real time reporting. Data entered in one module of the system are immediately accessible for other organization's functions. Figure 1. presents typical functional ERP architecture.



Figure 1. Typical ERP system architecture

People often contemplate ERP as software provided out of box. We consider ERP more as a concept. Target of any ERP implementation in organization is to provide benefits for all stakeholders by improving business operations and decision making process. It is important to state that ERP's benefits are a direct result of effective preparation and implementation, and appropriate use of system. This seems obvious, but nine out of 10 companies don't get it right the first time around. [2]

Story about ERP implementation

ERP implementation is set of activities, normally leading to the fully operating system. It mixes business, technical and clerks' sides which should work harmonized during the implementation. Every employee in the company is involved in ERP implementation process; either they are technical support in company (IT department) or end users of information system. Obviously it is not easy to manage all of these project members. There are many examples of ERP implementation failures.

The world of IT and business consulting is full of stories of ERP projects gone wrong. Companies such as Whirlpool, Hershey Foods, and Allied Waste Industries have had exposed

2 (September 1998 issue of Midrange ERP "There Is No Magic in ERP Software: It's in Preparation of the Process and People," p. 8]).

court cases against ERP software vendors (such as SAP A.G. and Oracle) because of their unsuccessful implementations.

It is interesting that according to a statement cited in an ITWorld.com article, Waste Management claims SAP deceived it by creating "fake software environments" for product demonstrations. The project went bad almost immediately after a sales agreement was signed in October of 2005. Though SAP promised a pilot version of the system would be up and running by Dec. 15, 2006, "it is not even close to being completed today." [3]

Another famous story about SAP implementation failure is Shane Co. The family-owned jewelry retailer that sought bankruptcy told a U.S. judge the company's decline was triggered partly by delays and cost overruns for a \$36 million SAP AG inventory-management system.

SAP, the world's biggest maker of business-management software, took almost three years to install and implement the system instead of one year, while costs "ballooned" to \$36 million from a projected maximum of \$10 million, Shane said in papers filed in U.S. Bankruptcy Court in Denver. [4]

In general an implementation is seen as successful if it is completed within budget and time frame; addressing all implementation deliverables measured by ROI, KPIs etc. Lots of variables are involved in ERP implementation such as; personnel (business side, technical side, support side, users), implementation partner (for example local integration software PeopleSoft, JD Edwards, Salesforce.com etc.), and implementation strategy. [5] With a number of issues that arise together, in a few months or year for implementation, it is important to address critical factors that shape an implementation. Also, as we mentioned, it is important not to underestimate the nature of public institution and all bureaucracy you have to cope with during the implementation.

2. No one is immune - country specific issues of public sector

There is no industry or business activity that is not influenced by B&H's social environment. Complex picture of transitioning post conflict country will be described in next few paragraphs. The stress will be on state owned companies.

3 Whos to blame for failed ERP project that prompted lawsuit,

<http://www.itbusinessedge.com/cm/blogs/all/whos-to-blame-for-failed-erp-project-that-prompted-sap-lawsuit/?cs=11588>

4 Shane Says SAP Costs Helped Cause Jeweler's Decline,

<http://www.bloomberg.com/apps/news?pid=newsarchive&sid=awweg53wmmJw&refer=germany>

5 Bhagwani, A.: Critical Success Factors In Implementing SAP ERP Software, An EMGT Field Project report submitted to the Engineering Management Program and the Faculty of the Graduate School of The University of Kansas, (2009)

In Bosnia and Herzegovina there are some big state owned companies that implemented an ERP or are in the process of implementation. According to SAP User Community in B&H SAP ERP is the main ERP vendor for big public companies. It could be useful information so we will name those companies: EPBiH, BH Telecom, JP EPHZ HB, HT Mostar and Clinical center University of Sarajevo.

One of the issues of public sector in B&H is very complex stakeholder structure due to political system as a result of post conflict circumstances. (Dayton and Paris political agreement resulted in four different levels of government – 14 governments, 180 ministers; 1 prime minister per 300 000 people, one the most complex and expensive governmental body in the world). According to the 2005 CMI report, this bloated public sector accounts for 54% of the annual GDP - more than in any other European country. [6] Another issue is widely spread corruption as one of the common characteristics of post socialist developing country. After war in B&H and privatization, which was conducted doubtfully, hundreds of state owned companies finished in bankruptcy. However, still few state owned companies, mainly utility and telecom companies, are the backbone of country's economy. Unfortunately, public sector in Bosnia and Herzegovina is very complex and due to the last surveys one of the most corrupted in Europe, especially in its employment policy.

As mentioned previously 54% of GDP is consisted of public sector what implies the importance of this sector and long term consequences if fraud is part of it. Same report states that corruption pattern in B&H is characterized by (a) high level of public concern with corruption, (b) low level of public trust in the governments, (c) state capture and conflict of interest, (d) public administration inefficiencies reflected in widespread bribery in public offices, (e) distorted business environment and (f) a significant burden on poor households, exacerbating poverty and inequality. Public tenders (defined by public procurement law) could provide opportunity for corruption if they are done with a lack of transparency. [7] Also process of choosing the bid winner is complex with not strict definition of vendor selection criteria. According to the World Bank report, in the most cases in B&H, tender policy is based on price, which weights for more than 70% of possible points which vendor could earn in selection procedure. This leads to artificially low price offered. It ensures winning the bid, but do not ensure the quality of service.

3.How ERP vendors want to help implementations

As mentioned in previous chapter, ERP software vendor is one to blame when expected results do not occur after ERP implementation.

ERP vendors believe that tracking of tested implementation methodology is a prerequisite for successful ERP implementation. All implementation methodologies e.g. Oracle Application Implementation Methodology (AIM), Accelerated SAP (ASAP) etc suggest at least five

6 Corruption and Anti-Corruption in Bosnia and Herzegovina (B&H);
www.u4.no/helpdesk/helpdesk/query.cfm?id=221

7 Bosnia and Herzegovina Diagnostic Surveys of Corruption, World Bank;
<http://www1.worldbank.org/publicsector/anticorrupt/Bosnianticorruption.pdf>

phases of ERP implementation: Define; Design; Build; Transition; and Go Live & Support. [8]

To avoid uncomfortable project situations ERP vendors developed predefined ERP implementation methodologies. One of the most famous is delivered by the biggest ERP vendor - SAP. It is ASAP methodology (ASAP – Accelerated SAP). In next few paragraphs we will describe ASAP methodology in details.

Accelerated SAP (ASAP) is SAP's standard implementation methodology. It is consisted of 6 phases, and those are: Project preparation, Blueprint, Realization, Final preparation, Go-Live Support and Run. It is serial relationship, so predecessor phase has to be completed in order to move on next phase. In figure 2. those phases are shown.



This roadmap is a step-by-step guide that incorporates experience from many years of implementing R/3. Along with that, Accelerated SAP contains a multitude of tools, accelerators and useful information to assist all team members in implementing R/3. Quality checks are incorporated at the end of each phase to easily monitor deliverables and critical success factors. ASAP is delivered as a PC-based package, so that – if required – an implementation project can begin prior to having an R/3 System installed. [9]

We will give more details regarding each phase.

3.1. Project Preparation

Goal of this phase is to plan our project and lay the foundations for successful implementation. It is at this stage that we make the strategic decisions crucial to your project: define your project goals and objectives, clarify the scope of your implementation, define your project schedule, budget plan, and implementation sequence, establish the project organization and relevant committees and assign resources

3.2. Business Blueprint

During this phase we create a blueprint using the Question & Answer database (Q&Adb), which documents your enterprise's requirements and establishes how your business processes and organizational structure are to be represented in the SAP System. We also refine the original project goals and objectives and revise the overall project schedule in this phase.

3.3. Realization

In this phase, we configure the requirements contained in the Business Blueprint. Baseline

8 Nazir, M. M.: ERP Implementation in Oil Refineries, Daily Business Recorder, Karachi (2005)

9 Miller, S.: Asap Implementation at the Speed of Business: Implementation at the Speed of Business, Computing McGraw-Hill (1998)

configuration (major scope) is followed by final configuration (remaining scope), which can consist of up to four cycles. Other key focal areas of this phase are conducting integration tests and drawing up end user documentation.

3.4. Final Preparation

After project realization phase, we complete our preparations, including testing, end user training, system management, and cutover activities. We also need to resolve all open. At this stage we need to ensure that all the prerequisites for your system to go live have been fulfilled.

3.5. Go Live & Support

In this phase we move from a pre-production environment to the live system. The most important elements include setting up production support, monitoring system transactions. [8]

3.6. Run

Optimizing overall system performance and obtaining permanent business process optimization.

Phase objectives shown in Figure 3.

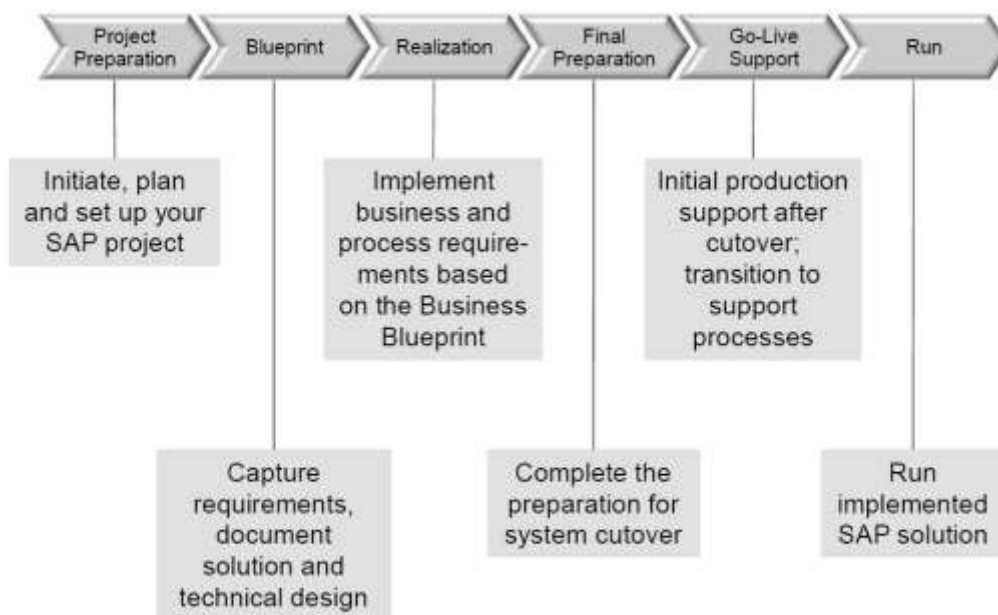


Figure 3. Phase objectives

ERP implementation in transitioning country in state owned companies –It is shown in table 1. Expected objectives for each ASAP phase and constraints that occurs in practice

Phase	Expected objectives	Constraints in practice regarding the phase objects
Project Preparation	<p>Defined your project goals and objectives</p> <p>Clarified the scope of your implementation</p> <p>Defined your project schedule, budget plan, and implementation sequence</p> <p>Established the project organization and relevant committees and assign resources</p>	<p>Unskilled project managers</p> <p>Corruption in tendering procedure (inadequate tendering procedure)</p> <p>Poorly written tendering documentation</p> <p>Leak of project management knowledge (no clear goals and objectives)</p> <p>Poorly prepared project work break structure</p> <p>Employee does not care about resource spending - state money.</p> <p>Budget and project schedule planned with no serious approach</p>
Blueprint	<p>Created blueprints using the Question & Answer database (Q&Adb)</p> <p>Mapped business processes</p> <p>Overview of all business process</p>	<p>Too much / little time spent on blueprint preparation due to lack of project management knowledge, and requirements set by political not business persons / reasons</p> <p>No localize ASAP documentation for smaller countries (example Bosnian language)</p> <p>Leak of business process mapping skills</p> <p>Leak of professional business environment in state owned companies, which support this extremely important phase</p> <p>Managers and supervisors mostly not centers of competence</p>
Realization	<p>Configured the requirements contained in the Business Blueprint</p> <p>conducted unit tests</p>	<p>Leak of project management</p> <p>Leak of change management (Change management not consider as important)</p> <p>Responsibility issue - “there is someone else who will do it”</p>

	<p>Conducted integration tests</p> <p>Prepared end users documentation</p>	<p>Integration test not taken seriously from end users</p> <p>Very slow internal knowledge and information transfer - several managers has to sign document to be approved .</p>
<p>Go – Live Support</p>	<p>Moved from a pre-production environment to the live system</p> <p>Includes setting up production support, monitoring system transactions</p>	<p>Help desk not established by the company</p> <p>Defined communication channels not respected</p> <p>Often, poor management decision made under huge pressure of Go Live phase</p> <p>Employees working habits- mistakes are there to be hidden</p>
<p>Run</p>	<p>Optimizing overall system performance</p> <p>Permanent business process optimization</p>	<p>No optimization and improvements</p> <p>Lack of understanding that the ERP system is “live” system</p> <p>After project is finished all ERP story ends.</p> <p>Problems with tendering procedure for support</p> <p>No competent support in country as Bosnia and Herzegovina - low spending on consultant education</p>

4. Most threatening constraints in practice regarding ASAP methodology

In next few paragraphs we will discuss the most prominent constraints from the list above.

Inadequate tendering procedure for state owned company - The Public Procurement Law adopted in 2004 generally complies with the main principles of the EU public procurement system. [10] However, in practice, procurement process for public companies still provides significant space for fraud. One of the most questionable aspects of public tendering law is determining price as the most important factor in bidding. So winning the bid is based significantly, if not exclusively on price. This leads to artificially decreased price by some bidders. Other companies are in the risk to become uncompetitive if the price is set according to the real market price for the project scope. This provide space for risky system integrators who are not skilled to provide ASAP methodology and cannot provide skilled SAP consultants who can implement ASAP methodology in SAP ERP implementation.

No localization for ASAP documentation for smaller countries (example Bosnian language) – ASAP methodology provides dozen of documents well written in English language. It is profound help for consultants and substantially accelerates the process of implementation. Unfortunately, this documentation is not translated on local languages of small, transitioning B&H market.

Time consuming decision making flow process (from bottom to top) – Decision process in big, public companies can be very slow. It clearly does not support name of SAP standard methodology – Accelerated SAP. One of the reasons could be very complex and complicated organization structure. Specific for some public companies is lack of modern information infrastructure, like e-mails.

Working habits of management and employees – Probably someone would ask what communism has with ASAP. However, as former communist country, Bosnia and Herzegovina has kept some of the practices from that period (especially in state owned companies). These habits could include: no real authority of the management, work is not valuated by achievement but personal relations; there is no incentive by employees to make some effort and improve work environment. Also, salary is determinate by salary coefficients for each working position. Coefficient is provided by legislation.

Public companies are short of qualified employees. Most of employees are with lack of knowledge and practice in business domain they are hired for. The reason for this could be

corruption in employment process (some public companies advocate publicly that they prefer daughters and sons of their current employees in hiring process.

Leak of professional business environment in state owned companies – ASAP methodology requires business educated professionals who can follow ASAP predefined tasks. Very often employees in state owned companies do not have appropriate skills that can support ASAP activities. Even if the project managers deliver tasks to their employee the feedback is missing or is delivered in very poor manner.

Leak of change management (Change management not consider as important) - Change management is a process which aim is to make easier implementation, as well as transition during ERP project. Since ERP project is usually very complex, change management can play significant role to improve employees to understand why the project has been implemented and to make organizational changes and BPR easier. These activities can be summed into 3 basic ones: education of employees, communication among stakeholders and involvement in project process. Lack of change management can affect quality of project implementation, and make results smaller.

5. CONCLUSION

As it is stated in abstract the main objective of this paper is to answer a question “Does predefined ERP implementation methodology work for state owned companies in transitioning countries?” We tried to answer on this question with experience gained with several projects in state owned companies done in Bosnia and Herzegovina. We will call it “hands on” experience. As we are working as SAP consultants, we chose SAP Accelerated methodology as referent methodology for our paper. We found it relevant as it is provided by the biggest ERP vendor – SAP A.G. In general ASAP methodology is well developed with hundreds of well-structured documents which support all ERP implementation activities. Unfortunately, in practice, this ERP implementation methodology hardly works for state owned. As experienced SAP consultants we have impression that ASAP methodology is constructed for private companies with professional business environment. At the end we will state the most remarkable constrains we found during ASAP methodology implementation:

Inadequate tendering procedure for state owned company

No localization for ASAP documentation for smaller countries (example Bosnian language)

Time consuming decision making flow process

Working habits of management and employees

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Leak of professional business environment in state owned companies

Leak of change management (Change management not consider as important)

We hope that this paper will be useful in further ERP implementations and ERP research.