

Evaluation of a State-based Process Management Platform

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Abstract — *The first objective of the analysis presented in this paper is to define an evaluation procedure for Business Process Management Systems (BPMS) and to investigate requirements to BPMS in different categories according to the procedure. The business process life cycle, different BPM values, process types, infrastructure requirements and BPM failure reasons are explored.*

The second objective of the analysis is to investigate ISIS Papyrus' BPM approach grounded on a state-based representation of processes and a learning algorithm sensitive to document content. We have assessed the ISIS Papyrus BPM platform step by step according to the developed procedure.

I. INTRODUCTION

A lot of efforts are usually devoted to BPM projects. Nevertheless, such projects fail quite often or don't live up to the expectations due to a variety of reasons. Packaged applications such as ERP also have some problems for managing business processes. They don't deliver the process insights and agility needed by the business due to [2].

Potential factors that can lead to a BPM project failure are important to be investigated. Moreover, a special procedure should be created in order to help a BPMS-customer to understand which aspects should be taken into account when choosing a BPMS and to help a BPMS-vendor to define a niche for the BPMS and understand its advantages and drawbacks.

At the same time many alternative approaches to BPM have been proposed. One of them is ISIS Papyrus' process management approach grounded on the state/event-based representation of processes and learning, sensitive to the content of documents in a workflow [4]. The Papyrus platform provides the user-trained environment (UTE) that lets execute or guide a process on the basis of learned user experience [4]. Since this approach is quite new for the BPMS market, it is essential to assess it and evaluate strengths and weaknesses and to show which BPM sector it can potentially occupy.

II. RESEARCH METHODOLOGY

The evaluation procedure was created after researching the scientific base of BPM, i.e., the process life cycle, classifications of processes, and the practical base, i.e., how BPM is understood by companies, why companies initiate BPM, why BPM projects fail or don't live up to the expectations. This knowledge provides the foundation for realizing the steps that are important for evaluation of BPMS. Then, each step of the evaluation procedure was investigated in order to define requirements to BPMS. Classification of processes was analysed in order to define specific requirements for each process type. The state-of-the-art about the scientific background was acquainted by literature study, web-articles and white papers in the BPM field (for instance, [1]). Survey reports such as [2] and interviews with companies in Austria held by the authors of this paper provided the up-to-date view on problems considered in literature.

The Papyrus platform was evaluated according to the developed procedure. Sources such as Papyrus' documentation [4], workshops and discussions with the Papyrus team as well as partial scenario implementation were used for evaluation.

III. RESEARCH RESULTS

A. EVALUATION PROCEDURE FOR BPMS

The developed evaluation procedure includes the following steps:

1. Process life cycle support
2. BPM values support
3. Infrastructure requirements fulfilment
4. Fulfilment of the requirements to different process types
5. Best practices support and failure avoidance

Each step is provided either with a chosen structure for evaluation (the first step) or a developed evaluation schema with requirements (other steps).

The process classification for the step 4 is based on [2] and [3].

B. ASSESSMENT RESULTS FOR THE PAPYRUS PLATFORM

Papyrus' approach is evaluated as very valuable for process life cycle support because it brings user experience into the system, is not restricted by modeling elements and lets optimize a process almost without human participation. Nevertheless, graphic representation of processes as well as optimization results are not visible explicitly. This, however, is essential for a company especially while optimization is not empowered with a collection of process targets.

The Papyrus platform is assessed as oriented on bringing such values as cross-enterprise process support, agility of process changes and decreasing process cycle times by automating a part of the process and providing operational decision support as well as by supporting tasks delegation and removing delays when handed off from person to person. See "Figure 1" for details.

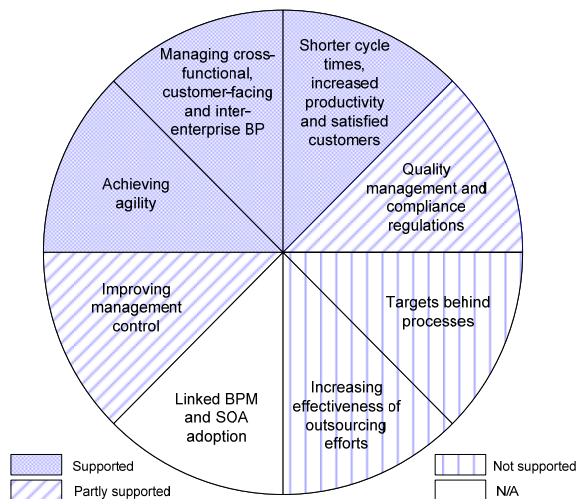


Figure 1: BPM values support by Papyrus

According to the evaluation, the platform is flexible enough, reliable and secure, and fulfils mandatory infrastructure requirements.

The system suits for managing people- and document-intensive processes as well as for sequential workflow and content approval scenarios. It has good chances to be successful during competitions with other BPMS for managing these process types.

Decision-intensive processes can be basically supported by Papyrus. Nevertheless, the platform is not empowered to support such kind of processes in the best way as it doesn't provide decision support on the basis of business data analysis.

Papyrus' approach, having a state-based concept, is potentially very powerful for case management of complex processes. This could be Papyrus' unique niche as typical workflow modeling BPMS must

have failed to support such kind of processes. But no tries have been yet undertaken to explore how system would operate practically under such conditions.

See support of different process types by Papyrus on "Figure 2".

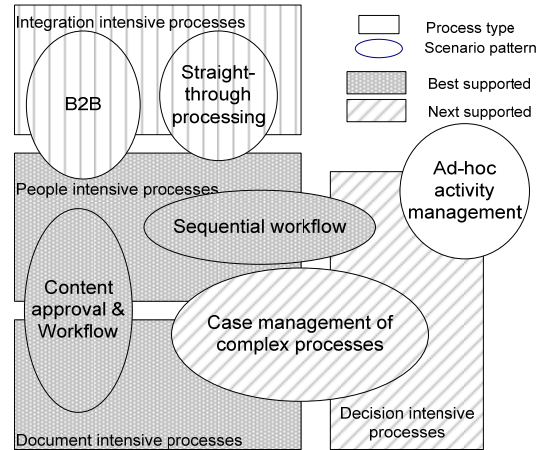


Figure 2: Different process types support by Papyrus

The Papyrus platform with the UTE concept is especially efficient for:

- Processes with high reusability of actions
- Process flow based on documents content
- Large enterprises with several employers having the same functional role
- Processes where staff changes often or employers haven't enough experience

Since UTE is basically an approach based on inductive learning, the drawback of the approach is that it only works if enough examples exist for learning.

Not sufficient process visibility and complexity of the design and deployment procedure make the platform not a perfect system. Nevertheless, this platform has a potential to avoid some failures and supports multiple BPM best practices.

The analysis described in this paper was carried out in the master thesis and presented at Papyrus.

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