

Successfully Introducing the Methods and Instruments for Flexible Business Processes Automation into Romanian Companies

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Abstract

An approach containing methods and instruments adapted to the economical environment conditions with a high speed changing rate would be the synthetic description of the BPM (Business Process Management). This approach was absorbing instruments from both business management and information technology field, being situated at the border between the interests of two scientific communities, therefore revealing a high degree of modernity and innovation.

Also, provided the innovative nature, this research domain was not properly explored by the specialized literature, consequently it emerges with a sharp need for specialized researching.

The comprehension of the typical phases of this kind of projects and of the critical success factors is oriented towards the convergence of the aspects surveyed by the business and Information Technology (IT) communities, the usage of a common vocabulary, the understanding of the possibilities but also the limits of the current technological environment. This understanding represents the foundation of achieving the benefits supplied by the approach presented.

Keywords: *business process, BPM, critical success factors, process automation, process improvement*

JEL Classification: M15

Introduction

Starting from the BPR (Business Process Reengineering) approach from the 90s, the information technology was considered a reference point in the process management and their improvement. Therefore the information technology was given a increasingly important role within the change orientations of the companies' management.

The direct consequences were the Enterprise Resource Planning (ERP) implementations, considered as integrated solutions designated to solve all the problems raised within the company's process management.

Nevertheless, the experience of these companies proved that the ERP implementations generally led to obtaining a series of more or less standard processes which proved extremely difficult to modify when required by the pressures coming from the customers or the competition. One of the major problems experienced by the management of these companies was exactly the lack of flexibility of these newly installed processes. They functioned perfectly automatic if kept exactly at initial specifications, yet it was extremely hard to be modified according to the new market situations or in order to achieve newly emerged opportunities (Hakkinen, Lotta and Hilmola, Olli-Pekka, 2008)

Following the western example, the medium and large size Romanian companies have introduced, over the past 10 years, costly ERP type systems without a long term vision upon their agility. Acknowledging this lack of flexibility had oriented the research towards finding new automation solutions.

The objective of this work is to draw the attention upon a new way of conceiving, implementing and developing company processes able to avoid the inflexibility generated by the classical solutions of equipping it with software applications. Furthermore it is also exhibiting a path to follow and the critical success factors for the organizations engaged in taking this step.

Comparative analysis of the options for processes automation

There virtually are a few main modalities suitable for the automation of a company process:

- Building a dedicated software application
- Extending one or more applications, with integration
- BPM type solution

The first and second option represent dedicated versions with an well defined purpose and coverage rate from the starting point, so, for any environmental modification, the applications need to be re-written in order to become suitable for the new purpose. Within the third option, the management representatives are the ones who modify the rules in order to adapt it to the upcoming changes. Therefore, the BPM solutions are suddenly transforming a technical problem in a mainly organizational one. Furthermore, these are giving an anticipative flexibility as the change producing costs are far more diminished and it is becoming more efficient to effect the change anticipating risks that might appear.

The business process management (BPM) addresses this subject from a rather large perspective incorporating different analysis modalities as the simulation, process checking and exploiting as well as process interaction with the operations and social aspects. In parallel with the technological development, the current interest is to develop efforts for its standardization within the organization.

The BPM approach

Developing methods and instruments adapted to the conditions of an economic environment with a higher change rate led to the approach which we are today calling BPM, approach orbited by key concepts resulted from the convergence of process management theories and informational technology.

Generally, the company processes are organized around some key processes which bypass the departmental and divisional lines, these being standardized and measured at the company level.

For successfully using the management of these processes there are virtually two fundamental components needed within: a method of identifying, analyzing and conceiving a process structure on one side and an IT solution for allowing the reusing of some standard processes in different configurations by separating the applications from the actual conception of the processes. This way, the processes are not embedded within the conceived applications and may be modified depending on the strategic requirements of the company.

Regarding the first component, there is a rich history on the development of methods, techniques and instruments for analyzing specific processes, for improving and connecting them with the overall strategy and policies of the organization. (Hammer, M. 1990 and Deming, W. E. 1994)

For the second component, the traditional focus was directed onto developing software applications and related for supplying the necessary infrastructure for implementing these “reengineered” processes into production

Traditionally, the systems are using information modelling as starting point, the fundamental approach data based being dominant for the information systems environment. Nevertheless, lately it became clear that the processes are equally important and must be sustained in a systematically manner. The result was the development of workflow management systems. These systems were meant mainly for the automation of some structural processes, this causing their limitation only to a few application fields. Nevertheless, the basic concepts have been adopted also by other informational systems in which there was a strong acknowledgement of their importance.

In parallel with the technological development, the current interest goes towards undertaking standardizing efforts (as the Business Process Modelling Notation and Business Process Execution Language).

The promises and the difficulties of BPM implementation

The existing BPM practices and methods are divided between the representatives of two big communities: the business administration community and the computer science one. Provided the on-growing role of the IT systems in carrying on the business processes, a mutual acknowledgment and a consequent interaction would be essential for successfully achieving the BPM objectives of

flexibility and adaptation of the business processes within the highly rapid change conditions

Nevertheless, the reality is showing a series of difficulties in achieving this goal; difficulties resulted specifically out of the complexity of intersecting the many different contributing domains.

Another perhaps more important element is the application modality of this goal. As per our observations, in general, the launching of a program for changing and aligning the processes is almost never started out of the blue, but from a current situation where some of the applications were already installed, budget spent and objectives realized.

For being able to align the current situation with the desired one, using concepts and methods from the multiple project management is essential as only this way there could be obtained all the advantages from a correct usage of the resources, establishing priorities and avoiding the risk of blocking the projects in different stages without notable results.

Typical phases of developing a process automation project when approaching the BPM

The specificity of this kind of projects was signalled by many authors, an approach synchronized with the Romanian economical environment being found at Chang, James F. (2006). In this approach the typical phases are as follows:

Phase 1 - Strategic assuming of the decision of using the approach

Once the organization has chosen to use these methods, it has to also assume this decision at organizational level. This way, the resistance which this kind of projects might face towards the change which they might bring gets reduced

Phase 2 - Preliminary research upon the current situation

Regarding the preliminary research upon the current situation, this has to be oriented towards the following aspects:

- The preliminary research of the processes includes the classification of the current processes, the identification of the key ones and their prioritization for implementation. Here there a multiple criteria that can be used, yet the ones used more frequently are the rules used in the comparative analysis of the costs and benefits resulted from automation and the impact level over other processes.
- The identification of the technological options implies identification of applications to be purchased, the acknowledgement of the already existing application interfaces, acknowledgement of the support group maturity regarding these solutions.

- Finally, the preparation of the organization for the change clear the way for the vast modifications regarding the practices and the working modalities for the ones who will use this solution

Phase 3 - The analysis

In this phase there are included both the activities concerning the actual effecting of the processes analysis as well as the activities related to the typical project organizing, namely establishing the team etc.

Phase 4. The conception

This phase implies the actual conception of the proposed solution, starting with a high level vision and up to the detailed description of the components of that solution (the logical chain of the processes, the detailed flows, the interfaces, the data models etc.)

Phase 5. The implementation

The implementation implies activities similar to the software developing projects, parameterizations, and unit integration tests. Quality and acceptance tests from the users are compulsory to be developed before launching it into production, in order to avoid ulterior occurrence of severe problems.

Phase 6 - Support

The last phase implies all the functional support activities as well as technical support necessary to the end-users for proper taking into possession of the new system.

From the above mentioned phases we dully observe the complexity of this kind of projects, inter-disciplinary using of numerous areas from the business administration field, strategic management, quality management, change management, information technology. Out of this reason, the success critical factors are developed on large covering areas.

In continuation, we are presenting the critical factors for the success of this kind of project, specific for the economical environment conditions of the medium and large size Romanian companies.

Critical success factors for the successful implementation of the BPM projects

Factor 1 - The comprehension of the important BPM aspects from both the business and IT communities within the organizations.

No matter whether we are referring to a large organization or a small company, the problem of identifying the common ground is, essentially, the same; in the large organizations there is a bigger complexity, caused probably by a lack

of interaction at ideas transfer level resulted from the hierarchy, the geographical distances, general communication barriers.

The perspective differences are the first barriers before the interaction. The persons involved within the business administration tend to consider the informational technology as a subordinate aspect for the business process management which is to be dealt with by the experts. On the other hand, the IT persons are often considering the company goals and the organizational regulations as less important notions for the enactment of the activities and projects launched.

Aligning of the objects, procedures, functions, systems and technical infrastructure is compulsory.

Factor 2 - Identifying methods, techniques and common vocabulary for being used in similar projects

The existence of some symbols, terms, and concepts able to be understood by both sides and transposed into concrete actions is essential. One of the most known notations for process modelling, focused on obtaining executable processes, is BPMN (Business Process Modelling Notation). This notation is allowing a common comprehension for the experts of both managerial and IT fields.

Factor 3 - Establishing a BPM project management methodology able to take into consideration the organizational context and its maturity degree

Using a methodology as per the one described bellow might avoid most of the errors frequently occurring within the organizations venturing into these projects, unfortunately with many times negative results within the implementation phase. Nevertheless, the formalization degree of these methodologies has to be adapted to the understanding level and the organizational culture in order to be able to fulfil this kind of projects.

Factor 4. Designing a pilot

Because many times the vision between the perceived modifications and the real experience in using such solutions there is a notable difference, demonstrating the capabilities at a rather smaller scale is always beneficiary. Furthermore, the team is ready to concretely use the techniques and methods in a more protected environment than the one considered at overall organizational level

Factor 5 - Understanding and using the advantages and disadvantages supplied by the current technological environment

A permanent adaptation of both the change requirements for increasing the agility of the processes and the currently existing possibilities is even more necessary for proper dimensioning of the projects' scope as well as managing all expectations coming from the interested parties.

Conclusions

Provided the pressure upon the Romania companies regarding the performance increase when offering the market products and services along with the novelty of the subject on the agenda of the managers who are responsible for the launching and implementing of such projects, we consider that by following a methodology similar to the one presented within the current article as well as taking into account the listed success related factors will ease the path towards their successful finalization, obtaining processes adapted to the changes on the today's competition environment.

In the terms of theoretical research, this paper provides a methodological starting background for more detailed studies over the BPM project realization conditions and the risks involved by their carrying out.

In the terms of practical relevance, we consider that this methodological approach and the emphasizing of the critical success factors are meant to orient the interested managers for fulfilling such projects, properly planning, organizing and controlling them, considering also their specificities.

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