

# AS IS ORGANIZATIONAL MODELING

## *The problem of its dynamic management*

Nuno Castela

*Centro de Engenharia Organizacional, INESC-INOV, Rua Alves Redol, n.9, 8.esq., 1000-029 Lisbon, Portugal*

José Tribolet

*Centro de Engenharia Organizacional, INESC-INOV, Rua Alves Redol, n.9, 8.esq., 1000-029 Lisbon, Portugal*

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**Abstract:** In nowadays business competitive world, the organizations need to have some integrated and accurate representation of its business processes and information systems to allow fast responses to activities like business process reengineering, information systems requirements capture and quality systems implementation, etc. The frequency and importance of this kind of activities is rising up. Unfortunately, the maintenance of this representation is not a trivial question and the business model tends to be constructed to be used and then “sit on the shelf”. In this paper, first is shown why frequently the As-Is model “sit on the shelf”. Then, is shown who the “clients” of the As-Is model are, and how these organizational actors can contribute to maintain the As-Is model updated. In the end preliminary characteristics of a model are identified in order to become it self-sustainable. A meta-model of the As-Is model and a prototype tool are also presented.

## 1 INTRODUCTION

Integrating the CEO framework for organizational modeling with UML, developed at INESC-INOV [Vasconcelos et al, 2001], the intention is to define what characteristics the As-Is model must have to be auto-sustainable and updated all over the time.

Despite the recognition of the added value of the business models, its potential is not being completely explored. The business models are typically used for BPR that intend to [Castela et al, 2001]: collect requirements for information systems development, improve the business key mechanisms comprehension and identify new business opportunities.

These activities have a common characteristic – they act normally isolated in time. However, these activities are augmenting its frequency because the organizations are becoming more and more dynamic in order to maintain its competitiveness. This fact, and the need of process continuous improvements imposed by the quality management systems implementation, leads to the necessity of having a integrated model of strategy – business – SI actualized over the time.

The process of building the As-Is model and its justification are well documented by the enterprise

and scientific community: [Reijswoud-Rijst, 1995], [Gruninger et al., 1996], [Bhaskar et al., 1994], [Podolsky, 1998], [Giaglis et al., 1999].

Despite the added value recognition of the organizational modeling, the maintenance of the As-Is business/strategic/IS models has been hard, as we can see by the analysis of the following questions still without answer [EMIPA-SIG, 1992]: Why business models are archived so frequently after its initial use? Why business models are not up dated? How enterprises can or should better capitalize the business models?

It is necessary to close the gap between the modeling languages and the business actors, because they are an active part in the use, updating and management of the organizational model.

It is useful to promote the confidence and eliminate the hard comprehension of the business models by the business actors. To make an auto-sustainable model it is necessary distribute it and make it usable.

## 2 THE UPDATE PROBLEM

The business models should formulate and answer to relevant questions about the organizations tasks. Considering the model as a source for decision support, the model necessary information includes: access to previous representations and current state of whole organization so that the model be just more then a static document.

The following questions are published in the document "A state-of-the-art analysis by the Special Interest Group (SIG) on Enterprise Modeling: Issues, Problems, and Approaches" published in 1992 [EMIPA-SIG, 1992]. The questions presented in this conference are very actual, even 10 years later, which reveals the necessity of knowing if the nowadays technologies can better answer to these questions.

Question 1: Why the models sit on the shelf so frequently after its initial use?

The answers to this question refer the difficulties about the comprehension of the models by the business people, the inadequate paper support, the lack of demonstration about the usefulness of the models in the management and planning areas. The problems of the language and notation used and presentation and detail emphasis were also mentioned. It was referred that perhaps the management question was beyond the borders and views of the model.

All the answers have a point in common because all refer that the presentation of the model have to be synchronized with the context and the necessities of the users [EMIPA-SIG, 1992].

Thus, is necessary to link the modeling languages with the needs of the business actors. It should be created the necessary views to support the use of the model despite the views that some methodologies impose. It's necessary to prevent the lack of confidence and the miss comprehension of the model by the business actors.

Question 2: Why the business models are not updated?

The answers to this question refer the lack of motivation of the business people and the semantic distance of the models from the daily activities and the supporting software. It was also mentioned that the management did not understand the importance of the model. If the models are hard to understand, they are also hard to update. There were answers that refer that the people who build the models are not aware of the updates of the business, and others refers that many business models have irrelevant information.

It seems that is necessary to create quality measures for the models and to put these models answering relevant and meaningful business questions.

### Exception Handling

The exceptions (deviations from the normal flow) should be detected, analyzed and then make decisions that could change the model.

A knowledge-based approach can be used for exception handling. The tools used for business process management should assist the modelers in order to allow the analysis of the ideal processes, anticipating the possible exceptions occurrences and suggesting ways to detect and avoid them, adding knowledge to the models [Dellarocas and Klein, 2000].

The basic idea is motivated by the observation that most of the causes of process failures are associated at least with one of the three elements that constitutes a business process model: activity, resource and restriction. [Dellarocas and Klein, 2000].

## 3 DYNAMIC MANAGEMENT

So that the organizational model became auto-sustainable in the organization, the effort of the users for its dynamic actualization has to be less than the benefits it brings for the organization as a whole (monitoring the deviations between strategy and implementation by the analysis of different views, politics view and task view) and to each business actor separately (possibility of knowing what activities belongs to them, what resource clients and the suppliers are involved in each activity, what is the responsibility chain, the metrics of quality involved, etc.).

This vision is repeated simultaneously when we change the level of detail of the model (Activity -> Process -> Macro-Process). The business processes are perceived as a supply chain, where each activity is client of the precedent activity, implementing this way the continuous improvement perspective. The business actors have two distinct roles, sometimes they are clients, sometimes are executers (figure 1).

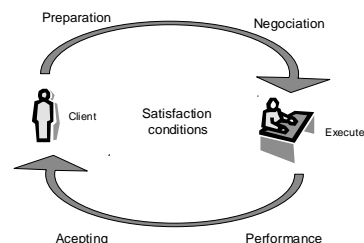


Figure 1: Continuous improvement cycle activities/processes

This concept derives from the workflow action analysis cycle [Mentzas, 1999].

The implementing cycle conditions are the following: preparation (work proposal), negotiation (contract about the work), Performance (execution of the work and conclusion declaration) and acceptance (where the client evaluate the work and declares satisfaction)

When the As-Is model is in production each business actor is responsible for its executing activities as well as the activities from which he is client, in a continuous improvement perspective. At the business process level, the basic principles are the same, where the owners of each process (or owners, because sometimes the organizational functional structure are not aligned with the processes) have to get a more generic view, but have to worry about his processes and the precedent ones, super visioning the activities that compose the processes. At the administration level, worries are about the macro-processes, and its clients, the external clients, in this case.

It is also necessary to design a support process, which monitories all the actions related with all the tasks embedded in the activities and processes

This process will be horizontal to the organization. It will treat and record all the information about the business objects (activities, resources, information systems) in a knowledge base, and it will do the exception handling

**As-Is Organizational Meta Model**

The meta model diagram of the As-Is model management is represented in figure 2. The diagram of the figure 2 was modeled with the CEO framework [Vasconcelos et al, 2001].

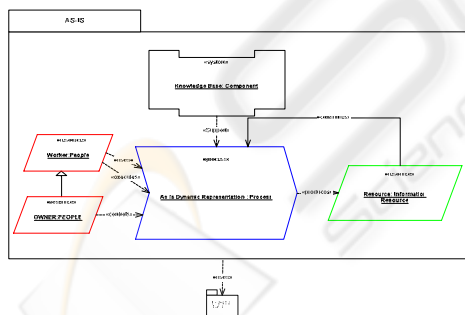


Figure 2: As-Is Meta Model using CEO Framework

**Exception Handling Prototype**

With the goal of testing the preliminary As-Is meta-model, a prototype was developed (figure 3), simulating the situation described in the diagram of the figure 4.

This tool only detects exceptions that are related to the resources changing.

The owners of the processes, and consequently, the owners of the activities have the capacity of surveying and validating the changing resources.



Figure 3: Screen Shot of the prototype tool

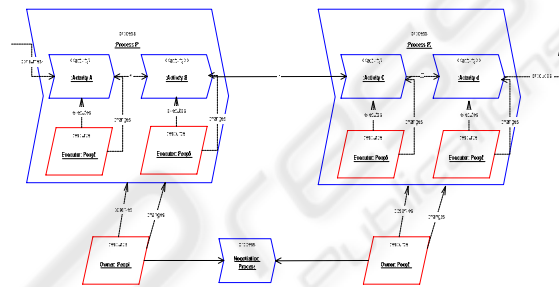


Figure 4: Model used to develop the prototype

When the changed resource pass through more than one process, the validating will be shared by the owners of the involved processes

This can be illustrated looking at the figure 5: if the executor of the activity C wants to change the name of the consumed resource Y to W, the owner of the P1 process and the owner of P2 process receives that information. The changing only takes place if these two owners give the agreement.

This prototype was developed using a 3-tier architecture (PHP® – Apache® – MySQL®)

**Information Gathering**

The methodology used for the surveying, analysis and validation of the information for business process follows generically the methodology presented in [Castela et al, 2002]. This was used in several organizations to develop the As-Is business model with success, but without the goal of capturing exceptions and key mechanisms to perform the management of the As-Is model referred in this paper.

To achieve the new goals, and namely to make the model usable for the business actors a new approach is necessary. This approach has three distinct dimensions or perspectives, respecting to the information necessary to model the As-Is organization – the organizational perspective (or workflow perspective), the business actors perspective and the IS perspective. Each of these dimensions has its own modelling space or views. These modelling spaces superimpose themselves in

the modelling views, depending of the invoked context (figure 5).

Modeling the organization by the business actor point of view corresponds to the particular way that someone sees the organization. The organization view, it is normally leaner, it is a kind of workflow that abstracts itself from details. In the IS view, it is necessary to capture also the activities that are only explicit in its modelling space, like support activities (e.g. back ups) and the context in which the IS's were developed (not always the IS supports activities for which it were designed for, they tend to be adapted for new necessities – and this is an important information, even to measure alignments)

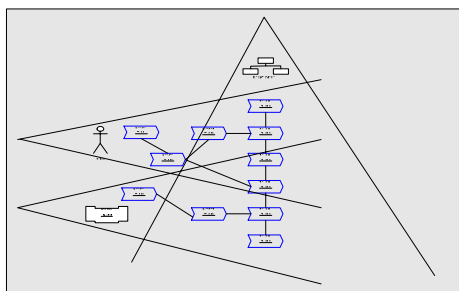


Figure 5: The three different perspectives

## 4 CONCLUSIONS

The prototype presented is still a first step in a more ambitious project, with respect to the information presented and, mainly, with respect to the number of exceptions that can be treated. But it demonstrates that is possible to maintain the As-Is model updated, through the information given by each business actor (workers and Owners), which promotes the communication possibilities and necessities among several actors, horizontally and vertically (with the implementation of the observation points, materialized here through the owners).

The idea, with these results, is to develop a more complex generalization, which should identify all the requirements to develop an As-Is model manager. This will need the identification of all types of exceptions that might occur, the identification of the necessary information to make the As-Is model executable (objects attributes, operations, states, events, etc.) and the suitability to adapt it to all types of organizations.

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