

Chapter 4

Antipasti:

Solving the Software Puzzles

ABSTRACT

Nowadays megatrend of Industry 4.0 initiative in complex and dynamic business environments require easy and hands-on methods for enterprise modelling that will be able to recalibrate process's models constantly. Processes are often declared as being "modeled" or "documented" but seldom as being "designed." This leads to certain afflictions in allocation of the particular resources required for the tasks of process modeling or design. There is perception of process modeling as a routine task, which is structured itself by "modeling terms and conditions" or "modeling agreement," while "design thinking" is mainly considered as much more less structured and belonging to the artist's nature. Implementation of such models in practice or IT automation does not fit the reality because of misinterpretation from the start of modeling and multiplied on each step of model transformation. In such circumstances any thought about fruitful digitalization looks very abused. This chapter describes a set of tools and techniques for enriching organizational models with semantic information and adjusting them on request. Firstly, this chapter considers an innovative approach for the model binding with relevant documents and experts. Secondly, factors that trigger models' changes using company's information environment (field) are defined. Thirdly, an agile enterprise-modeling framework that automatically adapts to the business situation, creating context-aware working environment for employees, is introduced.

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INTRODUCTION

One of today popular trend in discussion is Artificial Intelligence (AI) and it seems that quite a perspective concept in its field is a construction of tools and techniques for enriching organizational models as well business processes models with semantic information that can allow adjusting models on request. So basic idea is to provide enterprise agility by means of semantic analysis of information flow in business processes through observing their descriptions in modeling forms. Again this idea is not new since there were many releases at this issue in the 90s and in the noughties. And in spite of the fact that Google gives immediate response on 'text semantic analysis' retrieve of about 3M; the question seems not close yet.

In recent years, especially in last 5 years market conditions in many industries are changing so quickly that many companies seek news ways for quick adaptation. In order not to lose the current customer trend they have to tailor constantly their Business Information Technology (BIT) architecture models, adjusting them after each period of sales and changing market conditions. However, it is simply not feasible to manage speedy changes using traditional top-down modelling approach especially in enterprises over a certain size.

It has to notice that market evolution is not the worse what affects the necessity for management change, much more serious threat arises from sociological instability based on 'fragmentary' or 'clip' mentality. Therefore classical forms and methods of CRM are no more feasible for the biggest part of the market, and inside organizations the same problems decrease ability of exact and effective agile management.

Top-down modeling approach is based on a set of models, intended to describe all aspects of business and IT architecture from strategy goals to executive actions. A lot been said earlier about depravity of classical management usability in modern ages. For example, in the leading solution ARIS¹ there are about 80 types of models only for describing company's business-processes; many types of objects, which give description of different aspects of the simulated subject areas; several hundred types of ligaments, used for describing various kinds of relationships between objects.

It may seem, that company can fully describe its architecture and create a database for implementation and support process-oriented strategy, using this range of tools and methods of modeling. However, our industrial experience has shown that many (if not majority) modeling projects were not utilized (as

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