From Business Modeling Based on the Semantics of Contracts to Knowledge Modeling and Management

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Abstract

We argue that knowledge management cannot be separated from firm modeling. We, therefore start from a firm modeling methodology hereafter called “Approach Based on Contract” (ABC). In the method ABC, the contract (explicit or implicit) between a firm and its clients is the first step of the modeling. This contract is progressively refined in an interactive top down and bottom up approach in which each design team (DT) enters a sub-contracting process with the others DTs involved in same business process. The subcontractualisation and its parallel design process stop when the model resulting of the lowest DT groups is so simple that it can be operationalized.

We then discuss the interest and consequence of our approach on knowledge modeling, knowledge management, on the hierarchy of the firm and on manpower management.

1. Introduction

Since the work of Henri Fayol and Frédéric Taylor, much effort has been devoted to understanding the relations between knowledge and how businesses function, yet few overall methodologies have emerged. Attempts at modeling certainly go back a long way, but ideas and methods have taken a long time to surface. Bertalanffy's theory of systems and Wiener's cybernetic approach count among the first sources of inspiration for modeling a business. Since the nineteen seventies, the computer specialists have taken over the job, the design of software requiring a highly formalized approach. This has brought with it a profusion of methods from MERISE to object methods such as UML [7, 17].

Alongside this essentially 'engineering' approach, some economists and sociologists highlight the economic and human aspects of a business. The 'humanist' business and work as a social bond, all these questions have reawakened the interest of many authors in the service industries and in client relations [9, 11]. In the same vein, some authors stress the social and collective components of knowledge emergence and learning within working communities [3, 4, 31]. This is generally referred under the name of “communities of practice”.

What, on the other hand, appears more relevant to us is another movement, one which tends to turn all types of social exchange, particularly economic exchange, into contracts. By the end of the nineteenth century, both the lawyer Henry Maine [20] and the sociologist Emile Durkheim had become highly aware of this seemingly irreversible historical tendency, the logical conclusion of which has been the reign of the American lawyer. This idea of considering transactions leads to new analyses of the firms [5, 32, 34] and on to the model of a firm as a node of contracts [15].

Starting from this idea of contract, which none – service providers, producers, beneficiaries, clients – can escape from, we will show how this contractualization of relations leads to a structured model that makes it easier to analyze how businesses work and how knowledge is managed. Fusing the notion of contract with the various 'engineering' and sociological approaches will lead us to a methodology that allows us to construct models and information systems which are easy to evaluate, to maintain and to renew. This structuring, based on the idea of the contract, affords an overall framework for business modeling and conception. We have given the methodology the name ABC, for Approach Based on Contract.

Business modeling is in fact inseparable from knowledge modeling, because a model is a representation of the explicit knowledge of the firm. However, to get a