

Enterprise Ontology

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Enterprise Ontology

Theory and Methodology

With 99 Figures and 9 Tables

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To my CIAO! friends

Prologue

There is nothing more practical than a good theory

When you study the course of affairs in an arbitrary enterprise as a naïve observer, you notice that the persons in the enterprise seem busy like ants in executing a lot of different activities, thereby using a variety of machines and equipment. These persons appear to produce and shuffle around a lot of reports and other documents, while at the same time communicating quite a lot too, either face-to-face or by telephone or by some other means. Your first impression therefore invariably is one of huge diversity and complexity, and of an apparent lack of structure and logic. Moreover, if you revisit the enterprise after some time, it could very well be the case that you hardly recognize it, while from the outside it is still the same, i.e., the enterprise is still in the same business. You may see new persons and you may see known persons doing other things, you may notice that other machines and/or equipment are being used, and that the flows of documents and forms have changed. The only constant factors seem to be the huge diversity and complexity, and the difficulty in seeing a structure or logic in it. You may wonder how this enterprise managed to change. What was the redesign plan, and what was the reengineering plan, and why would they be right? How did one proceed to bring about the intended changes? How were they justified and evaluated?

Everyone who directed or carried out a substantial organizational change would call these questions highly relevant, and, probably, also rather academic. He or she knows that substantial changes get accomplished generally only with a lot of cheer luck, meaning that they rely on unprecedented, sometimes magical achievements of the people who actually do the work. This current practice of many unsuccessful projects, of lucky chances instead of controlled execution of well-designed plans, constitutes the motivation for the work that is described in this book, work that has been both theoretical and practical, and certainly not academic in the colloquial sense of the word.

If one thing catches the eye in almost all literature about and approaches to the (re)designing and (re)engineering of enterprises, including such subareas as business process design and engineering, and information systems design and engineering, it is the lack of a well-founded theory about the operation of enterprises. Often even the most basic notions, like action and actor and process, are not clearly and precisely defined. Obviously, one cannot expect much real help of such approaches.

The growing interest in the practical application of the notion of ontology provides a chance to make a fresh start, to bring approaches to the (re)designing and (re)engineering of enterprises to a higher level of quality. In order to achieve this, one has to find a way to separate the stable ontological essence of an enterprise from the variable way in which it is realized and implemented. That is the only hope for mastering the diversity and complexity in contemporary enterprises. What we need is a theory in which the concepts of essence and realization and implementation and all other relevant concepts have a well-defined place. Such a theory and a matching methodology, which has proven to be effective in numerous practical projects, constitute the contents of this book.

I am fully aware that I have profited from the feedback I received in the past fifteen years from a large number of people, which continually caused me to reconsider my thoughts¹. Instead of listing the names I have in mind, which would do injustice to the ones I forget, I confine myself to mentioning that they belong, in a stimulating mixture, to three groups. The first consists of the MSc and PhD students, formerly at the University of Maastricht, and currently at Delft University of Technology. The second is constituted by the colleagues and assistants, in both universities, I have collaborated with or still collaborate with. The third group consists of practitioners, in all lines of business. I am particularly happy to notice that nearly all current PhD students belong also to this group. They know from their own experience the problems in enterprises, and they have discovered that there is only one way out: improving your way of thinking.

I could have waited for another couple of years before having this book published, while continually adding and improving things. Instead I decided to do it now, for several reasons, of which the most important one is that I wanted to finish something. In this volume, I focus on describing the theory and the methodology of enterprise ontology, leaving untouched probably the most interesting part for practitioners: the overwhelming amount of practical experience in applying the methodology, which has recently been surveyed [24]. I can only promise that this will be taken care

¹ I refer here to a quote that is attributed to Richard Feynmann: “If you think you understand something, you have not thought about it enough”.

of; there will appear a second volume containing a selection of the enormous variety of practical applications. For now, I wish you a joyful learning experience in studying this first volume on enterprise ontology.

Delft, January 2006,
Jan L.G. Dietz

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