

Chapter IV

EKD:

An Enterprise Modeling Approach to Support Creativity and Quality in Information Systems and Business Development

Janis Stirna

Jönköping University, Sweden

Anne Persson

University of Skövde, Sweden

ABSTRACT

This chapter presents experiences and reflections from using the EKD Enterprise Modeling method in a number of European organizations. The EKD modeling method is presented. The chapter then focuses on the EKD application in practice taking six cases as an example. The authors' observations and lessons learned are reported concerning general aspects of Enterprise Modeling projects, the EKD modeling language, the participative modeling process, tool support, and issues of Enterprise Model quality. They also discuss a number of current and emerging trends for development of Enterprise Modeling approaches in general and for EKD in particular.

INTRODUCTION

Enterprise Modeling (EM), or Business Modeling, has for many years been a central theme in information systems engineering research and a number of different methods have been proposed.

There are two main reasons for using EM (Persson & Stirna, 2001):

- Developing the business. This entails developing business vision, strategies, redesigning the way the business operates, developing the supporting information systems, etc.

- Ensuring the quality of the business. Here the focus is on two issues: (1) sharing the knowledge about the business, its vision and the way it operates, and (2) ensuring the acceptance of business decisions through committing the stakeholders to the decisions made.

Examples of EM methods can be found in (Bajec & Krisper, 2005; Dobson, Blyth & Strens 1994; Castro et al., 2001; Johannesson et al., 1997; Willars, 1993; Bubenko, 1993; Bubenko, Persson & Stirna, 2001, F3 Consortium, 1994; Fox, Chionglo, & Fadel, 1993; Krogstie et al., 2000; Loucopoulos et al., 1997; Yu & Mylopoulos, 1994). Examples of application domains for EM can be found in (Wangler, Persson & Söderström, 2001, Wangler & Persson, 2003; Wangler et al., 2003; Niehaves & Stirna, 2006; Stirna, Persson & Aggestam, 2006; Gustas, Bubenko & Wangler, 1995; Kardasis et al. 1998).

Since the beginning of the 1990-ies, the authors of this paper have been involved in the development, refinement and application of the Enterprise Knowledge Development (EKD) method for EM. During this time we have applied the method in a fair number of cases in a variety of organizations, during which observations have been collected and later analyzed. We have also performed Grounded Theory (Glaser & Strauss, 1967) studies focusing on the intentional and situational factors that influence participatory EM and EM tool usage (Persson & Stirna, 2001; Persson, 2001; Stirna, 2001). The synthesized results of cases and other studies are reported in this paper. The paper focuses on issues related to the EKD modeling language, the EKD modeling process, quality aspects of EM models, and EKD tool support.

The remainder of this paper is organized as follows. In section 2 we present the EKD Enterprise Modeling method. Section 3 describes a number of cases of applying of method. Observations from applying EKD are presented in Section 4, while

Section 5 discusses the findings and provides some directions for future work.

ENTERPRISE KNOWLEDGE DEVELOPMENT (EKD)

In Scandinavia, methods for Business or Enterprise Modeling (EM) was initially developed in the 1980-ies by Plandata, Sweden (Willars, 1988), and later refined by the Swedish Institute for System Development (SISU). A significant innovation in this strand of EM was the notion of business goals as part of an Enterprise Model, enriching traditional model component types such as entities and business processes. The SISU framework was further developed in the ESPRIT projects F3 – “From Fuzzy to Formal” and ELEKTRA – “Electrical Enterprise Knowledge for Transforming Applications”. The current framework is denoted EKD – “Enterprise Knowledge Development” (Bubenko, Persson & Stirna, 2001; Loucopoulos, et al., 1997).

EKD – Enterprise Knowledge Development method is a representative of the Scandinavian strand of EM methods. It defines the modeling process as a set of guidelines for a participatory way of working and the language for expressing the modeling product.

The EKD Modeling Language

The EKD modeling language consists of six sub-models: Goals Model (GM), Business Rules Model (BRM), Concepts Model (CM), Business Process Model (BPM), Actors and Resources Model (ARM), as well as Technical Components and Requirements Model (TCRM). Each sub-model focuses on a specific aspect of an organization (see table 1).

The GM focuses on describing the goals of the enterprise. Here we describe what the enterprise and its employees want to achieve, or to avoid, and when. The GM usually clarifies questions,

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