Chapter 4
Modelling Information Demand in an Enterprise Context: Method, Notation, and Lessons Learned

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ABSTRACT
Information overload is perceived as a common problem in organisations and enterprises, which calls for new organisational and technological approaches for more pertinent and accurate information supply. The paper contributes to addressing this problem by proposing a method for information demand modelling, which contributes to capturing and understanding the information demand of roles in organisations. This method consists to a large extent of an application of enterprise modelling techniques. Illustrated by a case from automotive industries, lessons learned from information demand modelling are presented and discussed. This includes the specific perspective taken in the method for information demand analysis, common challenges experienced in demand modelling, and the validity of recommendations from participative enterprise modelling for information demand modelling. Furthermore, the paper introduces the notation applied for information demand models and discusses refinement process of this notation.

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1. INTRODUCTION

Accurate, pertinent and readily available information is essential to problem solving situations, decision-making and knowledge-intensive work. A prerequisite for providing relevant information in a timely manner is the understanding of the information demand; different actors in enterprises have as well as the information flow aiming at meeting this information demand. The intention of this paper is to contribute to understanding information flow problems in enterprises by proposing a method for information demand analysis and by discussing experiences of using this method in an industrial context. For this purpose, the paper integrates the conceptual development of a method, lessons learned and approaches from two different research directions: enterprise modelling (EM) and information logistics.

Since development of the early approaches and methods, one of the traditional application purposes of enterprise modelling has been to understand the current situation in an enterprise or organisation under consideration, in order to find problem areas and to propose improvements (Harmon, 2009). A multitude of methods, approaches, tools and work practices aiming at this purpose were developed in areas such as business process reengineering (Davenport, 1993), process improvement (Humphrey, 2007), enterprise knowledge modelling (Lillehagen & Krogstie, 2008), or organisational renewal (Burke, 1994). This large body of knowledge is one basis for the work presented in this paper.

The second field laying the foundations for our work is the area of information logistics (Deiters, Löffeler, & Pfenningschmidt, 2003). Information logistics addresses the challenge of improving information flow in enterprises and organisations. Routine activities and well-defined workflows are supported by sophisticated solutions, like enterprise information systems or production planning systems. But for deviations from daily routine, ad-hoc processes, work in distributed, structurally changing teams or seemingly unstructured innovation activities, quickly finding the right information for a given purpose often is a challenge. The analysis of information demand and the development of context models – to be more precise information demand context models – have been found a useful contribution when addressing this problem.

The focus of the paper is on lessons learned from applying the proposed information demand modelling method in industrial cases. The remainder of this paper is structured as follows: The next section (Section 2) elaborates on the background and previous research results forming the starting point for our work. This includes the objectives of information logistics and a conceptualisation of the term information demand. Section 3 discusses the used conceptualisation of methods and introduces a method for information demand modelling, which also is based on the conceptualisation of information demand presented in Section 2.2. Section 4 illustrates the use of the information demand modelling method in an industrial case and discusses information flow problems detected. Section 5 discusses and reflects on selected experiences from the industrial case. We have put focus on the evolution of different parts of the method according to the notion of method in Section 3 and in this paper we direct special attention to the notation used for capturing the information demand. Furthermore, the validity of enterprise modelling practices for information demand context modelling is investigated. Section 6 summarises the work and gives an outlook on future activities.

2. BACKGROUND AND PREVIOUS RESULTS

The work presented in this paper continues research in information logistics, in particular information demand modelling. This section briefly summarises this research, which includes a short