

Chapter 6

Enhancing the Personal Knowledge Management with Semantic Desktop Technologies: SCAN Approach

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ABSTRACT

This chapter introduces the general Semantic Desktop approach that has emerged last year as a researchers' response to necessity of the effective comprehensive personal knowledge management solution. It describes the theoretical foundation and implementation of a supportive technology in the context of the SCAN (Smart Content Aggregation and Navigation) framework that integrates semantic content aggregation, search, natural language processing, metadata management and tagging. It is asserted that synthesis of different techniques will provide new, improved experience for knowledge workers based on intelligence of document management, increasing their productivity, which in turn will have a favourable effect on organizational business outcomes.

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INTRODUCTION

The term “*knowledge worker*” describes a new type of workers that is valued for their ability of productive use of knowledge in the workplace. In 1968 Peter Drucker claimed: “Today the center is the knowledge worker, the man or woman who applies to productive work ideas, concepts, and information rather than manual skill or brawn... knowledge is now the main cost, the main investment, and the main product of the advanced economy and the livelihood of the largest group in the population” (Drucker, 1968, p.264). Since then organizational practitioners and researchers have become increasingly concerned with the management of knowledge and, in particular, with providing the organizational socio-technological environment for knowledge workers to increase their productivity.

While today’s working environment becomes more and more heterogeneous (that includes not only formal structure of organizations but also informal, looser, work groupings) new increasing numbers of information deliveries, exchanges and interactions are seen not only as opportunities but also as obstacles. “The old information types never seem to go away – paper forms, documents, drawings, database output, emails, faxes, files and records, and phone messages. Meanwhile, new forms have sprouted, from text and instant messages to blogs, wikis, social networks, podcasts, digital images and sounds, and even digital “stickies” (Gantz et al., 2009, p.4). To be effective today a knowledge worker has to tackle one of the key problems of our time - *information overload*.

An abundance of information in files of different formats, e-mail messages, web-pages and news feeds leads to lack of control over information flows and decreased productivity of a knowledge worker. According to Basex¹, a knowledge economy research firm, information overload costs the U.S. economy \$900 billion per year (Spira, 2008). Xerox Information Overload Hub² gives the following remarkable statistics: 28% of typical

workdays wasted by interruptions caused by unnecessary information, 53% of people who believe that less than half of the information they receive is valuable, 42% of people who accidentally use the wrong information at least once per week. But, information overload is not just about the growing mountain of information. Overcoming the issues related to personal and shared information overload would also help to cope with such important tasks of knowledge workers as effective decision making, problem solving, new ideas generation, knowledge dissemination, and others.

Thus, there is a clear need to seek new intelligent ways to handle information and to integrate them into organizational business processes, as well as to use new technological approaches and tools, supported by automation and intelligence. During last years a number of business management paradigms as well as technological solutions have emerged as a researchers’ response to issues mentioned above (Solution-Oriented Management, Creativity Management, Time-Management, Collaboration Management etc.). As one of the most promising concepts we consider *Personal Knowledge Management*, which is conceived as “a conceptual framework to organize and integrate information that we, as individuals, feel is important so that it becomes part of our personal knowledge base” (Frاند and Hixon, 1999).

In this chapter we present our vision of the Personal Knowledge Management and the SCAN Semantic Desktop approach that allows knowledge workers to gain a new, based on intelligence of document management, experience, increasing their productivity, which in turn will have favourable effect on organizational business outcome.

PERSONAL KNOWLEDGE MANAGEMENT

Following Drucker (1999), Amar (2002), Pauleen (2009) and many other researchers interested in

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