Chapter 3

Knowledge Management in Agile Methods Context:
What Type of Knowledge Is Used by Agilests?

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ABSTRACT

Agile methods are characterized with flexibility, reliance on tacit knowledge, and face to face communication in contrast to traditional methods that rely on explicit knowledge sharing mechanism, extensive documentation, and formal means of communication. In this chapter, the authors will have a look at the knowledge management techniques used in different software development processes with focus on agile methods. Then they will test the claim of more informal knowledge sharing and see the mechanisms used to exchange and document knowledge. The test is on the basis of a survey conducted by Scott Ambler in 2009, where he surveyed over 300 agile practitioners asking them about mechanisms used and in which context every mechanism is applied.

INTRODUCTION

Knowledge management (KM) is often confused with business intelligence (BI). According to a survey by OTR consultancy, 60 percent of consultants did not understand the difference between the two (Herschel and Jones, 2005). Gartner consultancy clarifies this by explaining BI as set of all technologies that gather and analyze data to improve decision making. In BI, intelligence is often defined as the discovery and explanation of hidden, inherent and decision-relevant contexts in large amounts of business and economic data. On the other hand KM is described as a systematic process of finding, selecting, organizing, presenting and sharing knowledge in a way that improves organizations' comprehension in a specific area of interest. KM helps an organization to gain insight and understanding from its own experience. This means that BI in its own is one of the tools that help organizations in extracting and presenting more knowledge with the help of IT in order to enhance its competitive position in the market.

(Nonaka and Takeuchi 1995) define knowledge as "justified true belief" which is subjective, difficult to codify, context-related, rooted in action, relational, and is about meaning. This differs from information as the later is objective and codified in many explicit forms such as documents, computer databases, images and the like (Wiig 1997). Knowledge is usually identified to have two types: tacit and explicit [Nonaka and Takeuchi 1995]. Tacit knowledge is personal, context-specific, and resides in human beings minds, and is therefore difficult to formalize, codify and communicate. It is personal knowledge that is embedded in individual experience and involves intangible factors such as personal belief, perspective, and value system. Tacit knowledge is difficult to communicate and share in the organization and must thus be converted into words or forms of explicit knowledge. On the other hand, explicit knowledge is knowledge that is transmittable in formal, systematic languages. It can be articulated in formal languages, including grammatical statements, mathematical expressions, specifications, manuals and so forth. It can be transmitted across individuals formally and easily.

Between these two types, four transitions might occur:

- Tacit to tacit (socialization): the process of sharing experiences and thereby creating new tacit knowledge, such as shared mental models and technical skills.
- Tacit to explicit (externalization): the process of articulating tacit knowledge into explicit concepts.
- Explicit to explicit (combination): the process of systematizing concepts into a knowledge system, i.e. combining different bodies of explicit knowledge.
- Explicit to tacit (internalization): the process that is closely related to "learning by doing" in which a person tries to incorporate others explicit knowledge and hence transforms it into own tacit knowledge without the need to relive the experience.

Figure 1 shows the four modes transitions of knowledge

In this chapter we will present the knowledge management methodologies used by agilests. We do not focus on the knowledge provided by the BI applications, but with the knowledge management techniques used by agilests in order to build BI applications. This is very important as building business intelligence applications depends on extracting as much knowledge as possible from owners, users, developers, and managers in order to achieve effectiveness and efficiency.

Agile methods have more focus on tacit knowledge rather than explicit. In this chapter we will test that empirically through a survey that was conducted on a sample of Agile software practitioners. The survey was conducted by Scott Ambler and the data is published on www.ambysoft.com. This survey was performed the last week of July

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