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Factor Analysis of Motivation and Hesitation for Knowledge Module Sharing

- Case Study of the Software Development Division in ICT Company A -

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Abstract

This paper clarifies the motivation and hesitation of knowledge sharing among software development teams in an ICT company, company A. Software knowledge is not successfully shared in the company. The purpose of this research is to investigate the relationship between knowledge sharing activity and management from both sides of knowledge provider and recipient. The clarification of these matters promotes the knowledge sharing activity and reduces redundant software development activity.

Software engineers write program (source code) in human-readable style and the source code is automatically compiled into the software product. So, all of the knowledge in the software is explicitly described in the source code completely. Because of such consequence, it seems that software can be treated as explicit knowledge. If the knowledge is explicit, sharing should be easy. By investigating the reasons why it is not successful, we can encourage knowledge sharing activity.

Company A has tried to adopt the strict management style and lost ambiguity of the management. On the way of this change, BA among the development teams became small and weak. It is one of the reasons that knowledge sharing activity reduced.

From the view point of the knowledge providers, it was clarified that they don't intend to hoard the knowledge. But engineers hesitate to provide the knowledge because they assume that it is not allowed. Company rule or managers' thought is not clarified.

When the knowledge is transferred, the recipients apparently get benefit. But they don't get the software developed by another team so often. If the software is modularized and easy to understand, engineers tend to receive and use the module. Experienced engineers are likely to import software modules if they pay attention to the efficiency of the development. The engineers who have successfully received the knowledge don't necessarily understand the imported modules well.

And through the investigation, it was found that software is not pure explicit knowledge. It needs tacit knowledge portion for developers to use, so it is imperfect or defected by itself and it has context dependency. Because of these characteristics software knowledge sharing is not simple,

As a result, knowledge sharing is promoted on the following two conditions. The first one is that the company policy to share knowledge is clearly announced. The second one is that the management with ambiguity encourages autonomous decision of engineers and knowledge sharing.

From these findings, this paper concludes three kinds of implication. (1) Ambiguous management style rather than strict management style supports successful knowledge sharing. (2) The characteristics of software, which is a mixture of both explicit and tacit knowledge, accelerate or suppress the knowledge transfer. (3) Clear message to share knowledge encourages the activity.

Key words : knowledge sharing, ambiguous management, software module, recipient, motivation