Chapter XII


Yongtae Park, Yeongho Kim, and Intae Kang
Seoul National University, Korea

ABSTRACT

This chapter proposes a framework for designing knowledge management system (KMS) for R&D organization. Broadly, KMS comprises two principal modules: a process management module to administer knowledge activities to generate and utilize knowledge, and a contents management module to deal with knowledge contents, input and output of knowledge activities. The two modules are then materialized through two operational systems: workflow
management system (WFMS) for R&D process and R&D knowledge management system (RKMS) for R&D contents. As a building block to integrate the two systems, workflow-based knowledge map is suggested. The authors admit that the research is an exploratory proposal that suggests merely a conceptual scheme. Therefore, it is required to elaborate detailed procedure and materialize real system.

INTRODUCTION

Recently, knowledge management (KM) has attracted increasing recognition from academicians and practitioners alike. In a corporate setting, the functional spectrum of KM is so ample, ranging from procurement of raw material to the marketing of end products. Amongst others, R&D organization serves as the primary actor of knowledge management (KM), since it is the major source of knowledge generation and dissemination. Furthermore, R&D organization may be a challenging test bed for KM in that it needs to coordinate collaborative work among knowledge workers and ill-defined workflows across knowledge nodes. Despite the importance, however, little attention has been paid to development and implementation of KM for R&D organization. In this regard, the main purpose of this chapter is to propose a framework for designing KM system (KMS) of R&D organization.

Broadly, KMS is composed of a process management module to administer knowledge activities to generate and utilize knowledge and a contents management module to deal with knowledge contents, input and output of knowledge activities. Accordingly, the framework is composed of two major pillars, process management for R&D activity and contents management for R&D knowledge. Then, we propose two operational systems: a workflow management system (WFMS) for R&D process and an R&D knowledge management system (RKMS) for R&D contents. The overall architectures of WFMS and RKMS are briefly described and the procedure to integrate RKMS and WFMS is explained. The proposed system is web-based in that it is designed and developed on the web environment.

OVERALL FRAMEWORK

Matching WFMS and RKMS

As explained before, KMS for R&D organization comprises two major components, R&D activities and knowledge contents. R&D activities are associated with processes to generate and utilize knowledge, and knowledge contents are related with input and output of knowledge activities. Therefore, the overall framework of KMS is constructed by matching process management to administer knowledge activities and contents management to deal with knowledge contents, as portrayed in Figure 1.
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