

Title	知識リポジトリ投稿の動機づけ手法の提案 知識提供者同士のインタラクション
Author(s)	有場, 次郎
Citation	
Issue Date	2015-03
Type	Thesis or Dissertation
Text version	author
URL	<a href="http://hdl.handle.net/10119/12676">http://hdl.handle.net/10119/12676</a>
Rights	
Description	Supervisor:内平直志, 知識科学研究科, 修士

# Proposal for a Motivating Method for Knowledge Repository Posting - Interaction between Knowledge Providers -

Jiro Ariba

School of Knowledge Science  
Japan Advanced Institute of Science and Technology  
March 2015

**Keywords:** knowledge repository, knowledge contribution, intrinsic motivation, interaction

Knowledge repository (KR) is a support system for organization members to exchange experiences, working methods and ideas by posting documents to the database which is accessible to all the members. Many companies introduce a KR as part of the knowledge management strategy and expect the members to share and reuse useful knowledge. However they don't readily contribute knowledge to KR in many cases. This is a serious problem for promoting KR posting.

On the other hand, some web sites achieve successful knowledge contributions. For example, social networking service (SNS) sites give many people an opportunity to send messages to their friends around the world. Wikipedia allows anyone to edit an article freely. Participants of these sites enjoy knowledge contribution itself. In other words they are motivated intrinsically. It may give a hint of solving the problems in KR to analyze the motivating mechanism of the web sites.

This paper aims to propose an intrinsically motivating method for KR posting and to verify its effectiveness. The research process consists of three steps. The first step is comprehending the mechanism that KR posting is hard to motivate based on the literature

review. The author surveyed previous researches on knowledge contribution to KR or the web sites. The second step is proposing a motivating method and verifying its effect. The author developed a prototype of the method and carried out a laboratory experiment. The third step is interviewing the practitioners who have been engaged in KR management. The author clarified usability and limitation of the motivating method from the perspective of implementation.

According to the previous researches, interactions with others are important to motivate knowledge contribution. We can divide the interactions into two kinds of forms.

One is interaction between a knowledge provider and a knowledge receiver. For example, "like button" used in Facebook and replying function in Twitter help the receiver to respond to the provider's posting. Because of such a feedback from the receiver, the provider can value knowledge contribution and is motivated to contribute knowledge more. The author considers that in the case of KR the provider doesn't feel the interaction with the receiver. The literatures show that the providers to KR don't know when and how their knowledge will be used. Therefore it is often difficult for them to recognize the benefit of knowledge contribution. As a result they can't get motivated to contribute knowledge.

The other is interaction between knowledge providers. The case of participants in Wikipedia corresponds to this case. Wikipedia encourages them to collaborate in order to create a meaningful article. So they are motivated to correct the article in which they are interested. In this way a knowledge provider can interact with other ones. The author considers that interaction between knowledge providers is effective to motivate KR posting. KR has accumulated much knowledge so far. It is possible to create an interaction between providers by linking the knowledge whose content is similar. In this paper this method is called "knowledge association."

The author developed a prototype of KR and a knowledge association system to verify the motivating effect. The prototype of KR has a function of accumulating summaries of knowledge science thesis. The knowledge association system links summaries together and visualizes their relations.

Using this system, the author carried out a laboratory experiment. The subjects were 11 students. They were assigned a task that they searched for a thesis to read and post the summary to KR in 90 minutes. They performed this task under conditions of using the system and not

using it. The author measured their motivation by questionnaire and counted the number of posted summaries. In addition the author had third persons score the summaries. Comparing the results under two conditions, the system significantly strengthened relatedness, which is one of the factors of motivation and means one's feeling of having relationships with others. The system also decreased amotivation, which means one's unmotivated state. However any significant difference was not seen on the number and evaluation score of the summaries. It seems that the knowledge association system didn't improve the task performance clearly but could turn the subjects' interest to summary posting.

In order to complement the results of the experiment, the author carried out semi-structured interviews to 7 practitioners who has used or managed KR. The author basically asked them two questions. How can the association system be introduced to the KR in your company? How will the association system influence the employees' motivations? From their answers there are some problems to be solved for applying the knowledge association system; reliability of the association algorithm, the standard document format, designing the user-friendly interface and so on. Besides, it seems difficult to motivate the employees only by knowledge association. They may ignore the feedback from the association system if they have already known what task other employees do. However if they are enabled to connect with strangers by the system, they may feel interested in it. In addition, it is necessary to take the corporate culture into account because it influences employees' motivation potentially. Real KR systems have complicated relations with various factors. Therefore the comprehensive KR management is important.

Integrating the results of the experiment and the interview, although the knowledge association system needs to be improved, it can create interaction between knowledge providers and facilitate KR posting to some extent. For the future research it is necessary to verify the motivating effect of the system in the real situation.