

Wiki-based Knowledge Sharing in A Knowledge-Intensive Organization

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Abstract. Knowledge sharing is the core of knowledge management. For a knowledge-intensive organization, knowledge sharing plays a very important role in organizational knowledge integration and innovation. However, as many knowledge-intensive organizations do not have good knowledge-sharing platforms and advanced methods, it is very difficult for them to achieve knowledge sharing effectively. Wiki is a kind of new software of knowledge sharing, generated along with the development of web 2.0. It can effectively help organizations achieve internal knowledge sharing. From the necessity and validity of knowledge sharing inside a knowledge-intensive organization, this article discusses the important role of Wiki for knowledge sharing combined the characteristics of it, on the basis of which studies the implementation of Wiki-based knowledge sharing in a knowledge-intensive organization.

1 Introduction

In contemporary society of knowledge economy, knowledge is playing an increasingly important role. For the knowledge-intensive organizations (KIO) such as universities and high-tech enterprises, knowledge has been regarded as their own important strategic resource and the key factor of representing organizational core competence. To an organization, internal knowledge sharing is more important than knowledge sharing between organizations. It's the crux of improving organizational performance and core competence. Knowledge sharing within an organization makes the knowledge of individual or group in the organization transformed into the knowledge of the whole organization. Sequentially the staff can fully and efficiently utilize these knowledge resources which the organization has already owned to

create value for the organization. However, many organizations lack nicer platform of knowledge sharing and the support of advanced technology in actual operation. As a result, it obstructs the smooth realization of knowledge sharing inside the organization. With the rapid development of network technology, especially as the era of web 2.0 arrives, a series of advanced knowledge sharing software and technologies are generated. This offers a new opportunity for knowledge sharing inside a KIO. Wiki [1] is one of the important application software in web 2.0. It's a hyper text system, which supports community-oriented collaborative composition and also includes a set of assistant tools that support this collaboration. Compared with other hyper text systems such as BBS or Blog, Wiki is more open and collaborative. Anyone can edit and manage its content, and can also create new knowledge with the collaboration of community members. Thus Wiki can better help a KIO achieve internal knowledge sharing and promote organizational knowledge innovation.

This paper is organized as follows: Section 2 discusses the challenges of knowledge sharing in a KIO at present. Section 3 describes the important role of Wiki for knowledge sharing in an organization. The implementation of Wiki-based knowledge sharing in a KIO is presented in Section 4. Section 5 concludes the paper and presents some future work for research.

2 Challenges

2.1 Knowledge Sharing Necessity

In many knowledge-intensive organizations, most of the knowledge is fragmentary, scattered among different employees' minds, and is difficult to play an effective role when the organization solves practical problems. Knowledge sharing provides efficient approaches for the exchanges and communications between staffs. It can help the organization achieve the transfer and integration of individual knowledge, and make the scattered knowledge resources pooled to organizational knowledge assets which can create value, and improve the effectiveness of organizational knowledge resources. Through knowledge sharing, a staff's personal knowledge can be grasped by other staffs within the organization. This expands the scope of organizational internal knowledge owners, thereby avoids the loss of organizational knowledge resources resulting from personnel flow, and provides fully guarantee for the stable operation of the organization [2]. Therefore, knowledge sharing plays a very important role in promoting the integration of organizational internal knowledge resources and the level of the whole organizational knowledge.

2.2 Knowledge Sharing Validity

The effective implementation of knowledge sharing still depends on the strong support of a variety of factors in the practical applications. First, the organization needs to possess complete infrastructures and advanced knowledge-sharing models and establish a good platform. Secondly, it also needs good organizational culture

and a complete organizational system, so that an ideal atmosphere can be created for knowledge sharing [3]. However, there are still several restraining factors in these aspects for a great many organizations at present. On one hand, a lack of effective knowledge sharing equipments and advanced technologies in some organizations influences on the efficiency of knowledge sharing to a certain extent. On the other hand, there are many differences from knowledge-sharing values between some organizations and their staffs. And there is a lack of sufficient trust in knowledge sharing between staffs. So, many staffs are often unwilling to share knowledge on their own initiative out of selfish interests.

3 A Wiki-based Approach to Knowledge Sharing in A KIO

3.1 Providing Knowledge Sharing Platform

At present, many organizations establish their own internal LAN and hope to achieve internal knowledge sharing better through the instantaneity and diversity of network communication. But network itself is obviously not enough for knowledge sharing. The organization still needs knowledge management and knowledge sharing systems with full functions to achieve ideal effect of knowledge sharing together combined with some advanced groupware technologies and coordinated software. Consequently, it's very necessary that organizations apply Wiki technology to achieve internal knowledge sharing based on LAN. Considering the staffs, Wiki is a completely open platform for the exchange of ideas, in which anybody inside the knowledge-intensive organization can express their views, discuss with others at any time and carry out brain storming better. Meanwhile, the communications among staffs is no longer limited in a single department. It can span borders of departments to establish different communities and complete a certain organizational task together such as drafting a scheme of product promotion or an organizational development strategy through mutual cooperation and knowledge sharing among community members. In addition, it further reinforces the mutual trust and collective consciousness among staffs during the process of mutual cooperation and effectively strengthens the organizational cohesion.

3.2 Promoting Tacit Knowledge Transformation

Knowledge can be divided into explicit knowledge and tacit knowledge according to different forms. Explicit knowledge is easily expressed, definite and carried by materials and it can be spread by the normal linguistic way between organizational members, while tacit knowledge is implicit experiential knowledge, which exists in the minds of staffs or in the corporate culture [4]. It's difficult to describe in words accurately and to be learned or used by others. In a knowledge-intensive organization, most of knowledge is tacit knowledge, the unutterable trait of which causes objective obstacles for the inside knowledge communication. So that internal knowledge sharing is unachievable. The traditional solution is to transform tacit knowledge into easily diffused explicit knowledge through coding, face to face communication, personnel rotation and so on. But these ways usually take up a lot of manpower,

materials and financial resources, so they are not the best ways of achieving knowledge sharing for the organization. The advent of Wiki offers a more advanced way to solve this problem. As Wiki supports multiple formats of document types and is easy to operate, staffs can express the unutterable tacit knowledge vividly on Wiki according to the need at any time through the issuance of pictures, animation, video and so on. Therefore, other members can understand and learn the knowledge more visually so as to achieve knowledge sharing within the organization.

3.3 Enhancing Spiritual Motivation

As the society develops, the hierarchy of needs of people is improved continuously. The staffs not only desire for material rewards but also hope to receive social acknowledge and establish self-worth. Accordingly, while the KIO is encouraging its staff to share knowledge, it should attach great importance to meeting staff's spiritual needs. Wiki provides the organization with a knowledge-sharing platform of resource co-construction. It allows any staff to modify, delete and create its pages, and maintain the web site together [5]. Thus every staff of the organization can contribute to the smooth realization of internal knowledge sharing. Their sense of accomplishment is increased and their passion and enthusiasm of participating in knowledge sharing are stimulated better. Moreover, the staffs quickly establish personal reputation while contributing their own knowledge via Wiki. The more valuable knowledge who contributes, the more respect and admiration one can obtain from others. Based on this, the organization can still name the new knowledge concepts that the staffs create after the name of one labor or one team. This improves the popularity of knowledge contributors and enhances spiritual stimulation for contributors through the fast spread of network while people are learning and utilizing the knowledge.

3.4 Reducing Knowledge Sharing Risks

Organizational achievements of knowledge are collective intelligence gathering. If they aren't protected well but imitated or filched by others, it will be a terrible blow to the enthusiasm of staffs in knowledge sharing and knowledge innovation and also a tremendous loss to the whole organization. Therefore organizations must take effective measures to protect them. Though Wiki is an open knowledge-sharing platform, on which everyone can edit the knowledge content, it also provides the version resuming function at the same time, namely organizations can recover pre-edited version and previous content. So this can avoid man-made destruction availablely. Moreover, the staff's IP address will be automatically recorded by the system when they landed on the Wiki site. Once the maintainers discover a suspicious IP address, they can prohibit it from visiting the site in time. Meanwhile, organizations can also set the scope of IP addresses and the jurisdiction of editing web pages, and only allow their own staff to land on Wiki to share knowledge. Accordingly, organizational internal achievements of knowledge get effectively protected.

4 The Implementation of Wiki-based Knowledge Sharing in A KIO

The SECI[6]model put forward by a Japanese scholar Nonaka Yujiro describes the transformation process of knowledge formats and indicates the essential of knowledge sharing within an organization reasonably, as shown in Fig. 1.

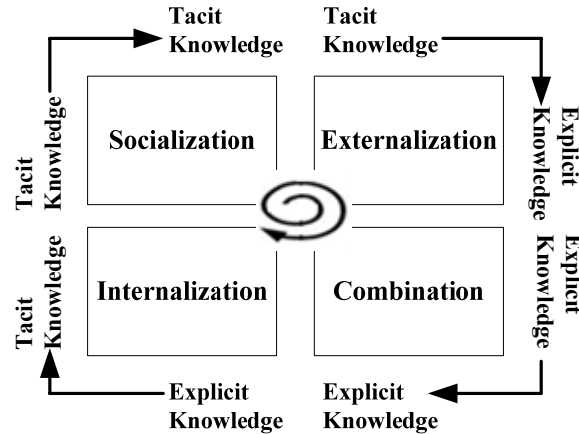


Fig.1. SECI model of knowledge sharing

In this model, knowledge sharing is divided into four processes, namely socialization, externalization, combination and internalization. By the four processes, knowledge transforms among the four states from individual tacit knowledge to organizational tacit knowledge, organizational explicit knowledge and individual explicit knowledge to achieve internal knowledge sharing. On the platform of knowledge sharing based on Wiki, knowledge externalization, combination and internalization can be fully realized by the functions of Wiki, while knowledge socialization that is a civilizing process means transforming tacit knowledge into tacit knowledge and needs to be completed through mutual observations, learning, and constant practices between staffs. Therefore, the process of knowledge sharing inside a KIO based on Wiki is mainly to achieve mutual transformation among states of individual tacit knowledge, individual explicit knowledge and organizational explicit knowledge, as shown in Fig.2.

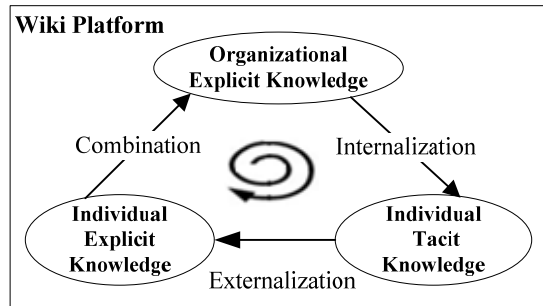


Fig.2. The process of knowledge sharing in a KIO based on Wiki

4.1 Individual Tacit Knowledge to Individual Explicit Knowledge

This is the externalization of tacit knowledge and also the difficulty of knowledge sharing inside a knowledge-intensive organization. In an organization, personal tacit knowledge of staffs means mostly individual skills, know-hows and experiences which are closely connected with organizational specific situation and difficult to specify, express and imitate [7]. In the ordinary course of events, the staffs in an organization usually externalize a part of tacit knowledge either consciously or unconsciously with practical acts in their everyday life. Then they absorb this externalized knowledge consciously or unconsciously each other by constant contact and influence in the long years of working together, accordingly realize knowledge sharing to some extent. But in this case, the externalized tacit knowledge of staffs is quite limited. Furthermore, other staffs often need to have a certain understanding of the knowledge contributors' background (such as personal preferences, work habits, attitude, etc.), then they can fully understand and grasp the externalized explicit knowledge. Thereby, it takes a long time to achieve the transformation from tacit knowledge to explicit commonly. While on the platform of knowledge sharing based on Wiki, this transformation process of knowledge forms is entirely based on the conscious and voluntary knowledge-sharing behaviors of staffs. Thus it can increase the efficiency and quality of tacit knowledge transformation. Staffs can record some instantaneous thoughts in their own minds on Wiki in everyday work at any moment [8].

4.2 Individual Explicit Knowledge to Organizational Explicit Knowledge

Staffs will get a complete understanding and cognition of knowledge structures of each other after the first phase of transforming personal tacit knowledge into explicit knowledge. Based on this, staffs who have similar interests in a certain knowledge field of the organization will gradually come together and form a community via Wiki, then discuss the problems of this knowledge field together. During their discussion, each community member can put forward his/her own views on the topic of mutual concern, while others can edit and modify the content of Wiki pages at any moment to have a denotative and connotative complement and improvement for

these perspectives about explicit knowledge issued by other people [9]. Finally they can reach a meeting of minds in the whole community and form integral knowledge achievements till the same topic is discussed very fully and deeply [10]. In this process, the explicit knowledge of each community member is transformed into that of group sharing via constant accumulation and fusion. Meanwhile, this promotes the generation of new knowledge, and makes the effect of knowledge sharing namely $1+1>2$ achieved.

4.3 Organizational Explicit Knowledge to Individual Tacit Knowledge

This is the internalization of explicit knowledge. When personal explicit knowledge of staffs is transformed into that of the organization, it becomes the sharing resource of the whole organization. Other staffs can login Wiki site to browse the sharing knowledge, and can also query desirable knowledge directly by the search engine within the site. After staffs capture the organizational explicit knowledge, they gradually apply it in personal daily work by their constant learning, experience and practice, and make it become their own skills and know-hows. They transform organizational explicit knowledge into individual tacit knowledge, and perfect their own knowledge system further.

4.4 The Spiral Elevation of Knowledge Sharing

Through the three above-mentioned phases of knowledge form transformation, the KIO achieves internal knowledge sharing based on Wiki. Subsequently, staffs will utilize the tacit knowledge acquired from knowledge sharing to solve practical problems. Meanwhile, they will also produce new ideas according to their practical work experience, and then continue to express these new experiences and thoughts through the Wiki platform. Personal tacit knowledge is transformed into personal explicit knowledge. Accordingly, a new round of knowledge-sharing process will begin. The difference is that staffs have already basically cleared about the knowledge system of the organization and have nailed down the specific organizational needs of knowledge resource through the previous knowledge-sharing process. As a result, the knowledge contributed by staffs will be more valuable for the organization in the new knowledge-sharing process. After numerous rounds of knowledge-sharing cycles, the organizational knowledge resources are complemented and improved continuously[11].The whole performance and knowledge innovation competence of the organization both are advanced at very fast speed. Therefore, Wiki-based knowledge sharing in a knowledge-intensive organization is a spiral process.

5 Conclusions

At present, the application of Wiki for knowledge sharing in a knowledge-intensive organization has only just begun, and there are many problems to be further researched and considered. For instance, how to better motivate the staff to share

their knowledge voluntarily, how to avoid the credit risks between the staff, and so on. However, it's convinced that various applications of Wiki in a KIO will be gradually matured with people's constant understanding and deep research of Wiki, which will play a more active role in promoting the growth and sustainable development of a knowledge-intensive organization.

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