Research on Network Knowledge Management Mode

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Abstract. This paper discusses the management of network explicit knowledge and tacit knowledge in detail, and thinks that it is only effective to improve the knowledge management of explicit knowledge and strengthen the identification and management of tacit knowledge so as to realize the effective knowledge of network knowledge resources management, and promote knowledge innovation.

1. Introduction
Since 1997, the domestic theoretical circles have introduced and discussed the knowledge management. They have summarized the concepts, definitions, contents, sources, nature, objectives, characteristics, functions and implementation and application of knowledge management. These comments combed the current understanding of the knowledge management to a great extent, which are still in the ascendant. This paper discusses the management mode of electronic information resources from the perspective of knowledge management, explicit knowledge and tacit knowledge.

2. The Meaning of Network Knowledge Management

2.1 Knowledge management content
Traditional information resources are divided into two main types: potential and realistic information resources. The actual information resources mainly include: oral, physical and literature information resources, which accounted for the largest proportion of the most used is the literature information resources, mainly books, periodicals, newspapers, conference documents, patent literature, standard literature, degree thesis, science and technology report, government publications, product samples, etc., these traditional literature information resources in order to facilitate the use of people to query and improve the efficiency of the long-term accumulation process, by the professionals to its effective management, so that the formation of a certain system easy to find easy to take. This is mainly the management of explicit knowledge. The potential information resources are stored in the human brain knowledge information, which is a subjective, based on long-term experience accumulated knowledge, including faith, metaphor, intuition, thinking mode and the so-called “know-how” (such as skills, management philosophy etc.), this part is a tacit knowledge, the exploration of hidden knowledge management is currently in a white-hot state..

2.2 The connotation of network knowledge management
Network knowledge management refers to the use of computer hardware and software technology and communication technology and other information technology, from the macro and micro point of view, all kinds of online knowledge resources, including explicit knowledge and tacit knowledge to collect, processing, storage, and to provide users with the appropriate use of the process in a convenient manner to improve the utilization of resources, and truly play the purpose of knowledge sharing, on this basis, to achieve knowledge innovation, and ultimately enable the application of knowledge to create valuable results. The knowledge here is a broad sense of knowledge, including all the facts, data, information, messages, and so on.
3. The Management Mode of Network Dominant Knowledge

The traditional document information management mode is the process of information conversion from one to three. And the network explicit knowledge management model still follows the transformation process from once to three times.

3.1 An organizational management model of network dominant knowledge

The information of the network explicit knowledge resources refers to the original information that is not processed on the Internet. The organization and management modes are as follows: free text mode, theme tree mode, database method and hypermedia mode. These management models have their own advantages and disadvantages.

(1) File way. This is the most original information organization management model. It is the relevant network information in accordance with uniform rules and methods into a document, and with the help of a dedicated document management system to manage these documents. In this way, the access of the network information is based on the file, suitable for storing unstructured information, for the management of structured information management can not do anything, and it is easy to create new redundant information and inconsistencies, increase the network load.

(2) Theme tree way. Network knowledge resource management commonly used organization and management model. This method is based on the traditional classification of information - the theme of the method, the establishment of a scientific, complete category classification system, all the information in accordance with the category to establish hierarchical theme directory. Friendly, easy to use, high precision, this way can accommodate the number of information resources are limited, such as Yahoo.

(3) Database way. It is developed on the basis of the document, in recent years more popular network knowledge information organization. It has a certain structure and regularity of information storage, for the structured information processing, this way can reduce the network information redundancy and inconsistency, improve the user’s efficiency and convenience. But it can not provide knowledge of the relationship between information, can not handle the increasingly complex information unit, and lack of intuitive and human-computer interaction, such as bibliographic databases, fact databases, full-text databases, and image databases.

(4) Hypermedia way. A combination of hypertext technology and multimedia technology that links and organizes information (such as words, tables, images, sounds, animations, etc.) is located on different pages in the form of hyperlinks. Organize information with hypermedia technology to form a non-linear network structure, with good tolerance and scalability, can organize all kinds of media information, to easily describe and establish the semantic links between the media information, beyond the media type of information on the organization and the search to limit the way through the link to browse the required information, with high flexibility. So this way has become the mainstream of the Internet information organization and retrieval methods, but the disadvantage is prone to information “Trek” phenomenon [1].

3.2 The second organizational management model of network dominant knowledge

The secondary organization and management model of the network explicit knowledge is a kind of retrieval tool which is constructed to reorganize the information once.

Search engine model. Search engine is a use of automatic network search technology, the Internet on a variety of resources to index, and to provide retrieval tools for the crawler. The famous search engines (websites) are: Google, Baidu, Bingbing, Ask and so on.

Search engine in the organization and management of network dominant knowledge resources, the advantages are: 1) search information results return speed, check the rate is higher; 2) to achieve a certain degree of logical order and optimize the network of knowledge resources for the full development and utilization of this resource provides a prerequisite and possible; 3) the metadata to the way the database organization, and some large databases also use multi-level index structure to improve the retrieval speed.
Search engine defects are: 1) search results of higher redundancy, low detection rate; 2) resource index is not targeted, academic professional information less, can not meet the individual needs of different users, the need for library and information institutions of professional knowledge and experience; 3) website pages have been deleted at any time, the possibility of change, the search engine can not be reflected in the page changes to the index, often dead chain or wrong link.

**Digital library model.** A management model that can store large amounts of information in digital form and efficiently manage stored information resources, such as collecting, selecting, organizing, retrieving, providing access interfaces, and information protection [2].

Digital library is the product of the development of the Internet to a certain stage, the main advantages of knowledge organization management are: 1) distributed information storage model. The digital library uses the distributed database technology, the communication technology and the computer network technology, which causes the dissemination of information to be restricted by the space; 2) non-linear information organization model. The digital library organizes the information into a mesh structure, where the information nodes are linked and invoked; 3) special information organization structure model. The information organization in the digital library is composed of pointers, metadata and data, which can facilitate the user to retrieve the usage information.

The lack of digital library is to meet the public demand for network information resources to a certain extent, but can not meet the individual needs of different users.

**Virtual library organization model.** Virtual library is a search engine, a lack of digital library supplement. It can be a subject or field of the needs of researchers, the Internet on the research institutions, laboratories, e-books, academic journals, conference forums and other disciplines related to a series of network information resources clues to the theme tree or database approach is linked to hypertext. Many of our university libraries have built their own virtual library, integrated network knowledge resources, to make up for their lack of resources, to provide network navigation, and according to their own reality, the construction of special resources [3].

Virtual library on the network knowledge organization and management of the advantages are: 1) professional or thematic. Tens of thousands of virtual libraries currently on the Internet are mostly professional or thematic, which is one of the main differences between a comprehensive general search engine and a digital library for public service; 2) using artificial keyword indexing method. Virtual library in the collection of web pages to most of the artificial keyword index, the higher quality of the index; 3) using the database method. In the virtual library, the documents and inverted documents are stored in a database; 4) the use of hyperlinks. As with the general search engine, in the search results can be recorded in the URL field out of the original web site.

However, virtual libraries are also deficient in information organization, that is, in the collection and maintenance of web sites are mostly artificial means, so this method is less efficient.

### 3.3 Three Organizational Management Models of Network Dominant Knowledge

The secondary information on the network to replace the formation of secondary information three times, the representative tool is mainly meta search engine, it is a number of search engines integrated together to provide a unified search interface; and a search question sent to multiple search engines, while retrieving multiple databases, and then through the polymerization, to re-output after the search results, such as WebCrawler, Dogpile and so on.

The advantage of the meta search engine is that using a multiple search engine can retrieve multiple search engine databases while obtaining commands and clickable results. But its shortcomings are also obvious, because the meta-search engine is a number of search engines integrated together, and different search engine search mechanism, the support of the search algorithm, the interpretation of the questions are not the same, there is no common norms. They are concentrated together in parallel retrieval accuracy is relatively poor, the retrieval speed is slow, easy to mislead the user to identify and use the information [4].

In short, the explicit knowledge management in the network is in the initial stage, which is based on the classification and subject method of organization and management, mainly on the network of objective knowledge management, and the network subjective knowledge that the network of explicit
knowledge management high-level stage, but also through the development of expert systems, intelligent systems, data warehouse technology, through online analysis and processing, knowledge discovery and data mining technology to implement, so that the above models can better reveal the knowledge associated process and behavior. The most efficient provide users with effective knowledge of information. Such as the future third-generation search engine, is an intelligent search engine which can realize knowledge mining and processing [5].

4. The Management of Network Tacit Knowledge

Network tacit knowledge mainly refers to the user service group information resources as well as Web2.0 Internet mode, with Blog, TAG, SNS, RSS, Wiki, Web Office and other social software applications as the core of the transfer of resources.

First, a wide variety of user communication or service groups on the Internet are the most popular forms of information exchange on the Internet, including Bulletin Board Service, Usenet Nesgroup, Mailing List, Discussion Group, Interest Group, Conference, Web Chat Room, etc. But in essence, it is an electronic forum composed of a group of users with common interests, and in this forum, people can easily carry out multi-directional communication. So far, you can think of any of the topics that have corresponding discussion groups, involving millions of users around the world. It is one of the richest, most liberal, and the most open source of resources. The breadth and directness of its information exchange are incomparable to other information resources.

Secondly, Web2.0 provides a series of effective technology and platform for tacit knowledge management; through RSS information push service, network information recommendation service, network bookmark label customization, blog search engines and other means to achieve personal knowledge acquisition; through interactive label TAG to realize the innovation of knowledge organization and knowledge exchange; through the blog and wiki; through RSS, social network software and network technology and platform to realize the transmission and sharing of tacit knowledge [6]. The tacit knowledge resources provided by Web2.0 model are more ordered.

These information resources is through the public way, the exchange of network users is the concept of personal conception, invention know-how, skills, experience, public advice, customer advice, expert advice, consulting programs, management assessment, etc. If the knowledge extraction, processing and filtering, the formation of a specific knowledge base, to achieve the internalization of knowledge, so as to seek knowledge to provide highly relevant knowledge, attention to find specific needs related to the knowledge structure, will achieve very good results. Its management model can learn from the management mode of the above-mentioned network explicit knowledge, and carry out management. If the network of explicit knowledge is the surface of the iceberg, then the network tacit knowledge is the main part of the iceberg below, often can provide a lot of very important knowledge and information.

In short, for the network knowledge resource management, only in the continuous improvement of explicit knowledge management at the same time, to strengthen the identification of hidden knowledge extraction and management, in order to maximize the needs of network users to meet the real knowledge sharing and promote knowledge innovation.

References


