Research on University Management Innovation Based on Knowledge Management

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Abstract. At the age of knowledge economy, the knowledge management, as a new management philosophy, has become a new perspective and strategic choice of university management innovation. Knowledge management will help not only to change the current situations of conservative university management methods and ideological restraints, but also to accelerate universities' development and to enhance core competitiveness, creating new competitive advantages to meet knowledge economy challenges. Administrators should realize management-based university management innovation by establishing university knowledge management system, building learning organization and shape university knowledge management culture.

Keywords: University, Knowledge Management, Management Innovation

1. Introduction

The history of the world economy development and foreign management theory research show that innovation has become the trend of modern management. University management also needs innovation. In order to enhance competitiveness and develop new and innovative talents, university administrators should creatively transform the university management and under the guidance of innovative ideas, should creatively adopt new measures. They should extend, update and optimize associations as management concepts, management systems, management content, management methods and means, management process, etc. in order to form a new management structure, create new management effectiveness, and better develop innovative talents. Knowledge management, as a brand-new management philosophy in the age of knowledge economy, has become a main driver of university development, new perspective of management innovation and strategic choice.

2. Knowledge Management and University Knowledge Management

2.1. Knowledge Management

In the end of the 20th century, knowledge management theory came into being to adapt the need of knowledge economy. Knowledge management, as a new management concept, is a broad study field. Research on different perspectives has different focus. In recent years, various researchers have proposed different definitions of knowledge management. Knowledge management is defined from four perspectives as the aims, objects, process and methods of knowledge management, shown in Table 1.

To synthesize views of different schools, we can draw a conclusion that the meaning of knowledge management can be both narrow and broad perspective to understand. Narrow sense of knowledge management is mainly aimed to manage the knowledge itself, including the management of knowledge innovation, acquisition, processing, storage and application. Broad sense of knowledge management includes not only the management of knowledge, but also all sorts of resources related with knowledge and intangible assets management, involving the full range and whole process of knowledge organization, knowledge service, knowledge assets, intellectual property and knowledge officers. [1]

2.2. University Knowledge Management

University knowledge management is a strategic goal. Universities regard knowledge and knowledge activities as the most important resources. Through the identification, acquisition, spread, diffusion and

creation of both inside and outside of university knowledge, universities realize the circulation and share of explicit and implicit knowledge. [2] Universities develop collective wisdom of staff to improve their response capabilities and innovation abilities, to improve organizational performance, enhance core competitiveness and effectively realize the strategic goals of universities.

Table 1. Definition contrast of "knowledge management" in different schools

Angles	Main Point of View	Representatives Figures
Aims	Process of obtaining and using knowledge in order to enhance organizational performance	Bassi
objects	the management of staff or knowledge assets	Peter F.Drucker
process	Knowledge management is the knowledge process management of creation, acquisition, storage and sharing etc.	T. H. Davenport
methods	Knowledge management presents an effective strategy to enhance enterprise revenue	APQC

3. Necessities of the Application of University Knowledge Management

3.1. The Requirements of Universities' Management Introduction to Knowledge Management Adapting to the Knowledge Economy Development

American scholar Lawrence Prusak said, "The only thing that can bring competitive advantage for an organization is to know how to use the possessive knowledge and have faster access to new knowledge." [3]

The 21st century is the era of knowledge economy. University as an important base of knowledge production, spread and usage in knowledge economy era faces the challenges of knowledge and technology innovation and the challenges of talent cultivation and sustainable development. University as a "knowledge factory" needs more knowledge management than enterprises to meet the challenges of the knowledge economy.

3.2. Knowledge Management Promotes University Management Reform

Universities the collection of knowledge production, spread, innovation and application should become the pioneer and model of knowledge management in the knowledge economy era. However, influenced by the traditional management thoughts, for a long time, universities' management mode did not really operate as "people-oriented". Management efficiency is relatively low; the staff's enthusiasm can not be fully mobilized; students lack of study motivation and innovation and there exist defects in knowledge structure, which can not catch up with the paces of knowledge economy. The birth of the concept of knowledge management makes it possible to change the current situations. On the one hand, based on knowledge management theories, university administrators use the methods and means of knowledge management, independently run for an open society, fully grasp and use inner and outer school knowledge, effectively inspire potential knowledge of teachers and students, improve knowledge learning abilities of individual and overall, create campus culture and values in favor of knowledge sharing and innovation, and promote scientific and technological achievements into practical productive forces. On the other hand, knowledge management focuses on people-oriented. Knowledge management make "people-oriented" management philosophy and university management closely related. Knowledge management reflecting people-oriented in student management needs to respect the students' personalities, to meet the students' reasonable needs, to fully develop the students' subjective initiatives and to realize the management transformation from the type of discipline to consulting service.

3.3. Knowledge Management Enhances the Core Competitiveness of Universities

The most fundamental source of university competitiveness is knowledge. The potential factor that decides university competitiveness is the ability to explore and apply to the value of knowledge. The stronger this ability is, the more high-quality graduates will be cultivated by universities, the more high-quality scientific research fruits will be created, the more economic and social benefits will be achieved. Therefore, how to improve the abilities of exploring and applying to knowledge value has become one of the goals pursued by university management. Only the core position in strategy implementation that knowledge management is placed that twice the result with half the effort can be achieved in upgrading university competitiveness.

4. The Innovation Implementation Strategies of University Knowledge Management

Since knowledge management is the new perspective of university management innovation. Then, how to realize university management innovation from the perspective of knowledge management? Universities should take the following three major measures.

4.1. Optimization of Knowledge Sharing, Building University Knowledge Management System

To create and maintain university competitive advantage depends on the efficiency of knowledge management. Knowledge is the only resource that can not be consumed in use and can continue to create value. Sharing is an effective response to develop knowledge value. Knowledge management system makes it possible.

University knowledge management system is the implementation platform of university management. It is a computer software system that has university management capacity and cooperation ability. It uses computer technology, information technology and other modern technological means to realize a network system of university knowledge management. The system itself is the processing of knowledge classification, selection, organization, expression and transmission. It includes the establishment of systems of high-speed network, office automation, network teaching and academic management system, etc. in universities. And relying on these systems, it extracts appropriate information to order from other systems. Meanwhile, it distributes and reuses the knowledge after the collection. It builds knowledge-based browser and server model system so that users can directly use the browser in the operating system to get quick and easy access to information and knowledge they need, achieving the efficient sharing and utilization of knowledge.

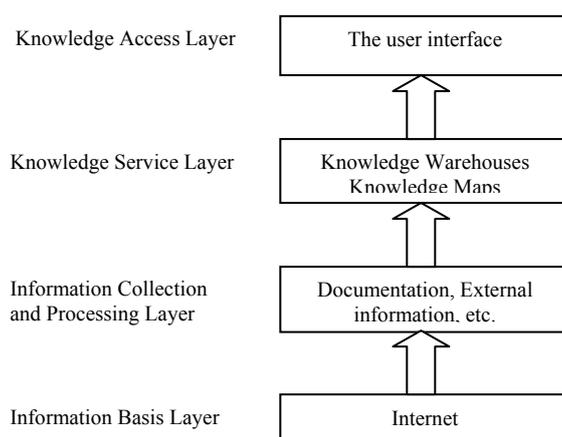Framework of university knowledge management system model shown in Figure 1.

Fig. 1 Model of University Knowledge Management System

4.1.1 Information Base Layer

Information base layer is the lowest level of this system model framework, and also the technical support platform of knowledge management system. It is the base to conduct knowledge organization and spread knowledge service. [4] It can provide some basic functions as communications, teleconference, Web content

management, etc. Information base layer can be divided into two parts. The first part is the hardware layer composed by the communication network and computer hardware. This layer is the underlying basis of the knowledge management system. The second part is the system architecture of knowledge management system. It, together with the hardware-based layer, offers powerful support for information spread, transformation and application.

In the system architecture, the knowledge management system of university administration should adopt a combining architecture of B/S and C/S models. The benefit of this method is that the B/S structure can be used by teachers and students through a browser and the operation is simple and convenient. The C/S structure can ensure some important data and the security of operations with risk. In addition, managers can also get direct access to remote database through a browser to spread information and modify data. [5]

4.1.2 Information Collection and Processing Layer

The information source of this layer comes from Internet, data of management information platform, knowledge in the minds of teachers and students. These information is important knowledge source in knowledge management system. This module collects and orders a large number of chaotic information resources and collects different information into the database. But, at this time, there are a lot of useless and redundant data in the database, and it can only be seen as a preliminary sorting of information resources.

4.1.3 Knowledge Service Layer

Knowledge service layer, that is, knowledge processing and storage layer is the key module of university knowledge management system structure. It supports the core mission of university knowledge management---knowledge discovery, references, product development, e-commerce, e-school. Knowledge service layer is knowledge-based, knowledge base processes knowledge unit and describes meta-knowledge of these units. The module will be based on users' needs and process collected information. It will transform information into valuable knowledge, and save in the knowledge base. Through the integration and aggregation of the whole knowledge, sectors will have a clearer understanding of its knowledge resources, which is helpful to realize the effective management and full utilization of knowledge.

4.1.4 Knowledge Access Layer

Knowledge access layer is the gateway that users get access to knowledge management system. The user interface of the system presents powerful searching engine, knowledge maps, network collaboration tools and learning tools, etc.[6] Knowledge services provided by knowledge access layer mainly include personal login management, personal document management and personal application custom records management, etc. Knowledge map describes the distribution of knowledge resources within the system, providing efficiently personalized searching service which includes internal knowledge search and Internet-oriented intelligent search. Collaboration service makes collaborative communications between groups through ways of instant communication tools, e-mail, video, etc.

Knowledge map in knowledge access layer is an important feature of knowledge management system. Knowledge map technology is knowledge management technology using to help people know where to find knowledge. Its essence is a synthesis using to make the total catalog of organizational knowledge resources and the relationship between all the knowledge items through using modern information technology. It can describe problems of not only the content and storage of knowledge, but also the time, cause and effect. Knowledge map can also tell people characteristics of some processes, the best experience and common mistakes, and can display whether the knowledge innovation is truly realized, deviated from the ultimate goal or not and how far off and so on.

4.2. Strengthen Team Learning, Build Learning Organizations

Learning organization is popular in recent years, and this concept is created to adapt the concept of organizational learning. In knowledge competition era, knowledge is quickly updated. In order to keep up with the development of the era, universities must build a learning organization carry out organizational learning.

The establishment of a learning organization must be based on the training of five skills as self-transcendence, improving mental model, establishing common aspirations, team learning and systems

thinking.[7] They are called Five Items Practice. In this kind of organization, members continue to expand learning abilities and create a sincerely yearning result. They make the new type of thinking method be nurtured, shared vision be achieved and they can continue to learn how to learn. It is clear that, learning organization is an organization that all members in it devote themselves into and have the ability to continue learning. It is an organization that makes all understand the meaning of life during the work. It is an organization that can create oneself and expand creating future energy. To universities, the common vision and an open culture organization group become the key to build the learning school. Open culture means that teachers have to accept each other and have sincerely mutual trust; shared vision is the soul of the organization, which unite the different personalities together towards a common goal. Organizational learning emphasizes not only individual learning and personal intellectual development, but also the cooperative learning of members and group intellectual development. Various groups made by curriculum, profession and subjects etc. become the principal organization form of learning schools. Team learning has typical characteristics of interactive, inspiring and strengthening, which can stimulate passion and interest of its members, fully excavate and mobilize the wisdom and potential of team members, and is conducive to knowledge sharing and innovation in a greater range.

4.3. Strengthen Motivation Mechanism, Shape Knowledge Management Culture

Shaping the university knowledge management culture is the core part to realize university management innovation. The essence of university knowledge management culture is a kind of knowledge innovation culture, knowledge sharing culture, trust and cooperation culture, learning culture, the tolerance culture and people-oriented culture.[8] Universities can establish knowledge innovation culture by establishing universities' intellectual development vision, creating an environment conducive to knowledge innovation, cultivating knowledge innovation of teachers and students. Universities can enhance the establishment of knowledge-sharing culture by cultivating the knowledge sharing consciousness of teachers and students, formulating knowledge-sharing principles, creating their "discussion space", establishing knowledge-sharing infrastructure and encouragement mechanism and developing the role of demonstration of senior managers. Universities can build trust cooperation culture by instilling the scientific concept of mutual the trust and cooperation in students and teachers, building team organizational structure, encouraging employees to actively participate in cooperative affairs, vigorously carrying out universities' cooperation. Universities can create a learning culture by establishing common vision and development goals, constructing them a learning team, implementing knowledge circulation learning, carrying out various forms of individual learning, planning staff career and fulfilling the performance evaluation system. Universities can build tolerant culture by building tolerance system of failure. Universities can also strengthen the construction of people-oriented culture from four aspects as correctly establishing people-oriented management philosophy, determining the quality requirements of knowledge workers of universities, determining the manner of the human capital investment, and establishing incentive and restraint mechanisms. Eventually universities can form a distinctive whole university knowledge management culture, as a result, university management innovation can be achieved and universities can get sustainable development.

5. Conclusion

University knowledge management is a systematic construction engineering and a process of reform and exploration that involves many aspects and related issues. University managers should not only establish knowledge management systems, build learning organizations and shape knowledge management culture, but also transform management philosophy, innovate knowledge management system, create knowledge management environment and strengthen knowledge management system evaluation and so on. There is still a long way to go for university knowledge management and innovation. However, we believe that with the constant richness of knowledge management theory and practice, knowledge management activities can play a greater role in university management.

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