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Analysis of Knowledge Management System in Scientific research center under Uzbekistan Academy of Science

Ушбу мақола ривожланиётган мамлакатларда айниқса, Ўзбекистонда билимларни бошқариш тизимини ривожланиш ҳолати асосида ташиқлотнинг интеграллашган ҳолатда рақобатбардош билимлар активини алмашиш жараёни самарадорлигини ошириш учун илмий-тадқиқот марказининг амалий билимларини бошқариш тизимини таҳлил этади.

На основе статуса развитие систему управления знаниями в развивающихся странах особенно в Узбекистане это статья анализирует практическую систему управления знаниями научно-исследовательского центра, для того чтобы повысить эффективность интегрированную конкурентного способности обмена знаниями в организации.

Keywords: knowledge management system; analysis; design; Scientific Research Center.

Held in Uzbekistan from the first years of independence, social and economic reforms, primarily focused on human development and its potential.

There is no doubt that economic growth leads to an increase in the wealth of the country as a whole, extending its potential in the fight against poverty, hunger, resolution of other social problems. That is why a high level of economic growth is one of the main targets of economic policy in many countries around the world.

The study on KMS is a new research area, which has been developing very rapidly. In order to develop and use effectively available knowledge within information communication technology in an organization, knowledge management will be a significant topic, which is the most attractive one. As our president said: By considering major role of the information and communication technologies in the life of society and economy in 2013 year was adopted in the 2013-2020 years comprehensive program of development of national information and communication system[1].

Increase labor productivity is one of the main directions of the promising ways of improving the quality of the product. It will do complex and comprehensively informatization all production processes based on information and communication technology [2].

Knowledge management is the process of capturing and use of the knowledge and techniques (in form of database, paper and idea in mind) of the organization [3].

Carrying out researches on the theory, technology and practice of KMS, and realizing knowledge sharing and reducing repeated works by integrating large volumes of knowledge is getting necessary. The applying of such systems will be of great significance for developing knowledge economy and establishing knowledge service industries. It will produce enormous economic and social benefits [4].

Importance of the construction of KMS of the SRC:

1. Through the analysis of the development status of knowledge management system both at home and abroad, it is essential to further investigate the effective path, environmental conditions and policy support for the KMS of SRC [5], put forward the theoretic basis, development path and construction mode of knowledge management system feasible for SRC to apply.

2. Systematic construction of KMS will enable SRC staff to understand the basic situation, history, development status and actual situation of each section in SRC. It is of strategic significance to provide a basic platform for SRC staff to realize knowledge sharing, to improve work efficiency, to strengthen the competitive power and improve innovative capacity.

3. The construction and application of the KMS in SRC will further provide theory, practice and support for the strategic program for constructing a national KMS of an agricultural research information system. Therefore, speeding up the construction of KMS has scientific value and social and economic significance.

Developed countries have input enormous funds to unfold joint research and development of KMS within an organization or among international organizations [6]. However, nowadays in Uzbekistan, some enterprises have gained some experience in constructing KMS. But in research systems, universities or even in the entire SRC the construction of KMS has not yet started. It is of explorative significance for the Science - tech Documentation and Information Centre of the Uzbek Academy of Sciences to take the lead in unfolding research on KMS in the domain of social – economic science and technology. It will be beneficial to the construction and development of a national social – economic research information system so as to truly realize knowledge sharing and increase work efficiency and skill level of Uzbekistan's social – economic science work.

At present, many countries in the world, especially the developed countries, are sparing all their efforts to promote the construction of KMS, attaching different extent of attention to KMS construction and having gained corresponding benefits from KMS construction [6].

In some large-scale information enterprises and information science research organizations and information education institutions, the construction of knowledge management system has already become mature. According to the survey by KPMC, a famous well-known knowledge management consultant company, showed that knowledge management is not only prevailing in the world for the time being, it will exist for a long period of time and will give important influence to every aspect of the enterprises[7]. Many famous universities, such as the Harvard University, Stanford University, University of Maryland, etc., famous information technology enterprises, like Microsoft, IBM, etc., some consultant companies such as Macanxi, Andaxin, KPMC, etc., as well as other important international organizations, such as the World Bank, FAO, etc., have already put forward their own knowledge curriculum, organization program or report. In reality, there are many enterprises or organizations, such as INTEL, ERS/USDA, etc., have achieved very good results in implementing knowledge management [8].

In Uzbekistan, knowledge management is still at the beginning stage, but

gaining attention with each passing day. Recently, KMSs often appear on the web and there are many webs that are engaged in the propaganda of the concept of knowledge management. This shows that knowledge management has gained the attention of few specialists but it has gained the attention of broader readers. Meanwhile, some enterprises have started their construction of knowledge management engineering.

However, although many companies have put forward their programs of knowledge management, yet in reality, some of them have emphasized certain aspect of knowledge management, such as knowledge sharing while others have stopped at the level of conception with poor operational results. At present, no enterprises or institutions are engaged in domain. Many people in this domain are stopped at understanding this concept. Along with social development and information technology development, the understanding of KMS will continuously develop.

Therefore, the construction of KMS in SRC is a long-term exploration process; it will need people's long-term efforts to realize a smooth application of KMS.

As for an information research institution, the objectives of knowledge management are as follows: link and integrate the already existed various knowledge sources within the organization including explicit knowledge (stored databases in the information system), implicit knowledge (practical experience, skills, thinking and mode of thinking of experts or partners) to form various knowledge pools, further condense them and provide a platform in technology and make them available to all employees in an organized manner from a disordered and unsystematic manner [9]. In other words, the objective of knowledge management is to provide an organized cooperation level, to transmit the most appropriate knowledge to the most appropriate people in the most appropriate time and enable them to make the most appropriate decision-making. It is essential to effectively improve the innovative capacity, responsive capacity, production efficiency and skillful quality of an organization or institution so as to improve the competitive power of the organization [11]. So, the KMS can provide the following advantages for the organizations: Preliminary formation of good general mood of knowledge sharing within an organization; The staff of SRC can share other people's knowledge while contribute their own knowledge; Construction of the KMS can provide knowledge needed by all staff; It Can have expert special topic discussion on web; and optimize the KMS while test operation and undertake acceptance and identification after the KMS reaches the technical requirements.

Technical route: Determine related knowledge production department - data collection and knowledge processing -construct knowledge pools.

Research methods: Unfold typical case survey and study. On the basis of taking existing experience with the construction of the Intranet of SRC, integrate the distributed knowledge, establish knowledge pools in categories and put them on the Intranet to be shared by staff of SRC.

Knowledge management system is to consolidate and convert the knowledge and other intangible assets of a department or individuals of an enterprises or an institution into electronic files and put them on Intranet to form a knowledge pool system on a dynamic system, which can be used to exchange and access at any

time[10].

Knowledge management is a management process to knowledge resources, which the organizations have held. The final objectives is to identify, acquire, develop, analyze, store, and disseminate knowledge, and make each staff contribute their knowledge to others at the maximum while they can also share other's knowledge. It is essential to undertake systems analysis of KMS [10].

As a social – economic research information organization, SRC must have a system knowledge chain with local characteristics. Knowledge chain includes seven operation steps: knowledge identification, knowledge acquisition, knowledge analysis, knowledge storage, knowledge dissemination, knowledge sharing, and knowledge evaluation. Through this knowledge chain, a relatively stable knowledge flow is formed, i.e.

Identification - Acquisition - Analysis —> Store —> Dissemination - Sharing - Evaluation.

This knowledge flow constitutes the basic components of a knowledge management system.

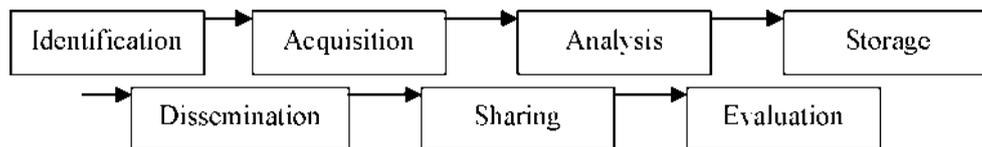


Fig. 1 Knowledge Chain —Basis of knowledge management system¹

Seven components of the structure of knowledge management system:

1. Infrastructure of knowledge management – the support part of knowledge management, including relational databases, knowledge pool, multi-databases coordinated system, information network, and so on.

2. Reconstruction of knowledge flow – the aim is to make knowledge resources, which an organization has held, more reasonably to form smooth knowledge flow through the knowledge chain, so that each staff can access to knowledge related to their business while they contribute their own knowledge and skills to others.

3. Methods of knowledge management – including content management, document management, record management, communication management, management of inside and outside knowledge communication, and management of whole the system.

4. Knowledge access and search – including integrated and coordinated management to various software application tools, such as intelligent search, multi-strategy access, multi-model access and search, multi-method and multi-layer access and search, network search tools, and whole system access and search.

5. Knowledge dissemination – set up knowledge distribution map, electronic document, CD-ROM, DVD, as well as transmission, printing and other information delivery channel on web.

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6. Individuation knowledge intercommunication – open up various communication ways among people.

7. Knowledge sharing and evaluation – establish a favorable organization culture, encourage staff to participate knowledge sharing, set up Chief Knowledge Officer (CKO), promote knowledge conversion, and formulate evaluation regulations to knowledge -procreant benefits.

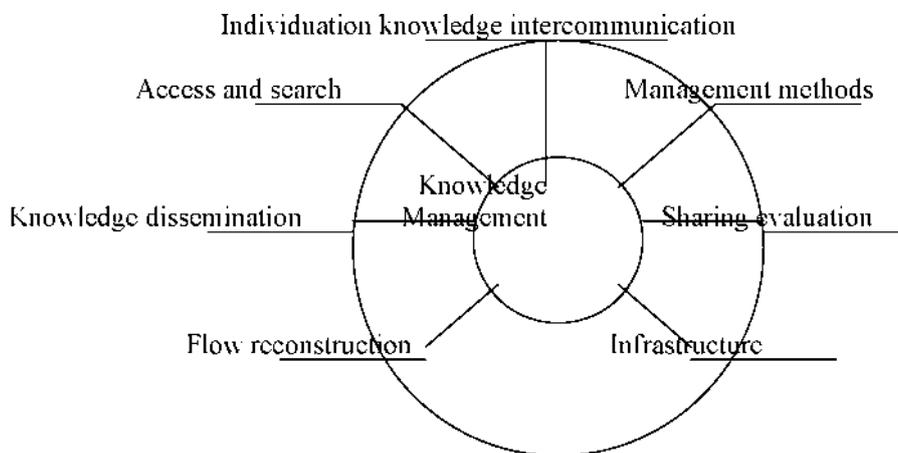


Fig 2 Chart: Structure of a Knowledge Management System²

The operation modes of a knowledge management system are: convert all knowledge and other intangible assets, which the organization has held, into electronic documents, then put them on Intranet web, form a knowledge pool, which can be accessed and retrieved at any time and any place. This knowledge pool must have a set of support and services systems and some necessary safety measures and authorized network control function. The staff can use the system to access newsletter information, look up historical events, and provide academic forum on the virtual board when they need to exchange ideas at any time.

Under the guidance of corresponding knowledge management theory, it is essential to collect knowledge, construct knowledge pools, design and realize knowledge management and sharing system under the background of knowledge management of SRC, so as to provide agricultural knowledge sharing service for agricultural science-tech decision-making and research and development.

The software system of KMS has the following functions:

1. Management function of research projects:

This function should mainly realize the management of the application, approval, research, check-and-acceptance, appraisal, prize application, filing and extension of research project

This function should treat a research project as a record, with a unique ID number for each research project.

This function includes the input, modification, deletion, query and consolidation of data at each link. The query of function includes: (a) query on the progress of the project by taking ID as the entry point; including the people, funds

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and various reports of the projects; (b) can query the system by taking people's name as the entry point to look up the progress of each of the projects. (c) can search the phases progress status of the project, information consulting report, etc. by the keywords.

2. Management function of foreign projects:

This function should mainly realize the management of foreign projects.

The management of foreign projects includes the information management of foreign expert as well as the sent-out experts.

This function should take individual person as the unit. Each of the people should have a unique ID in the system.

The information management of foreign experts is used to mainly trace the information and research information of foreign experts.

The information management of sent-out experts includes sent-out record as well as corresponding visiting reports.

3. Management function of disciplines:

This function is used to mainly realize the management of disciplinary knowledge.

This function should be based on the disciplinary classification and take the minimum disciplinary knowledge category as the unit and each basic category should have a unique ID.

This function includes the input, modification, deletion and query of each basic category of knowledge. The collected knowledge content includes academic thesis, academic monographs, academic report, internal report, academic minutes, etc.

The query of the function includes query of the progress of each knowledge category taking ID of the basic category as the entry point, including related thesis, reports, conferences and discussion of the related knowledge category.

4. Routine office automation function:

This function is used to realize routine office automation, including basic office management capacities such as circulars (announcement), office documents, handling affairs, sponsoring conference, etc.

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