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The Knowledge Management Research of Agricultural Scientific Research Institution

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Abstract Based on the perception of knowledge management from experts specializing in different fields, and experts at home and abroad, the knowledge management of agricultural scientific research institution can build new platform, offer new approach for realization of explicit or tacit knowledge, and promote resilience and innovative ability of scientific research institution. The thesis has introduced functions of knowledge management research of agricultural science. First, it can transform the tacit knowledge into explicit knowledge. Second, it can make all the scientific personnel share knowledge. Third, it is beneficial to the development of prototype system of knowledge management. Fourth, it mainly researches the realization of knowledge management system. Fifth, it can manage the external knowledge via competitive intelligence. Sixth, it can foster talents of knowledge management for agricultural scientific research institution. Seventh, it offers the decision-making service for leaders to manage scientific program. The thesis also discusses the content of knowledge management of agricultural scientific research institution as follows: production and innovation of knowledge; attainment and organizing of knowledge; dissemination and share of knowledge; management of human resources and the construction and management of infrastructure. We have put forward corresponding countermeasures to further reinforce the knowledge management research of agricultural scientific research institution.

Key words Agricultural scientific research institution, Knowledge management, Knowledge economy, Information technology, China

The universal application of information technology, as it is, has called forth the profound change of traditional scientific research ways. The degree and speed of occupation, allocation, development and use of knowledge resources, beneficial to national technological innovation system, will become the principal factors of controlling the commanding height of international technology and economy. It has been found that the management and share of knowledge, can promote the competitiveness of institutions; introducing knowledge management into agricultural scientific research institution and sharing the existing knowledge, can improve the innovation ability and core competitiveness of agricultural scientific research institution.

1 The connotation of the knowledge management research of agricultural scientific research institution

1.1 The knowledge management perception of experts from different fields The knowledge management concept is continuously developing, so there are different perceptions of experts from different fields. In terms of information technology, the knowledge management is a system operated in the environment of isolated operation or network operation; in terms of comprehensive management, the knowledge management is the integrated management of explicit knowledge and tacit knowledge; in terms of human resources, by means of various kinds of incentive mechanisms, the knowledge management is to make the tacit knowledge of scientific research personnel explicit, promote knowledge share, and ultimately propel the knowledge innovation of agricultural technology institution.

1.2 The knowledge management perception of foreign experts In the light of the acquisition methods of knowledge management, the knowledge management is to use collective wisdom and innovative ability and to provide new methods for realizing the share of organization knowledge, individual knowledge, dominant knowledge and recessive knowledge of enterprise[1]. In the light of the knowledge management process, the knowledge management is to transform various kinds of information into knowledge, and connect the knowledge with people; it is the formal management of knowledge, for the convenience of production, acquisition and reuse of knowledge[2]. In the light of the management, the knowledge management is the identification, acquisition, development, decomposition, use and storage[3]. From the restricted point of view, the knowledge management is systematic management of knowledge and the related processes, such as creation, collection, organization, dissemination, utilization and popularization of knowledge. It requires that the individual knowledge can be transformed into the collective knowledge for certain organization's broad use and share[4].

1.3 The knowledge management perception of domestic experts From the viewpoint of behavioral science research, some domestic experts holds that the knowledge management is to build the internal environment of enterprise with openness and trust by influencing the work attitude and behavior of employers, so that the employers spontaneously cooperate, and develop knowledge resources, in order to complete more difficult work, attain higher objectives and generate more benefit.

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Wang Delu holds that the knowledge management is a kind of modern management system, which is to provide new approaches for enterprise's realization of explicit knowledge and tacit knowledge; to take advantage of the collective wisdom for enhancement of enterprise's resilient and innovative ability; to adopt new management models for the need of enterprise's development, survival and rivalry confronting the continuous changing environment; to employ modern information technology and internet for the continuous internal and external management of the relevant knowledge; to use and disseminate knowledge to the utmost extent for the enhancement of enterprise's core advantage and competitiveness; to regard the knowledge share and knowledge innovation as the soul of enterprise's development, in order to promote the benefit and culture of enterprise[5]. Qiu Junping holds that the knowledge management is to combine human, process and technology perfectly, in order to transform the information-related components within the organization into a direct and dynamic collection of knowledge wealth which can bring enterprise value, advantage and profit. It is a kind of culture, lifestyle or the way of doing things[6].

1.4 My knowledge management perception As far as I am concerned, the knowledge management of agricultural scientific research institution is to allocate human resources; establish good environment of knowledge innovation; provide new platform and method for realizing the transformation between explicit knowledge and tacit knowledge by using communication and internet information technology; realize the connection and deduction of relevant knowledge based on modern information technology and internet; use and disseminate knowledge to the full for knowledge share and knowledge innovation; use collective wisdom to promote resilient and innovative ability of scientific research institution.

1.4.1 The objective of knowledge management is to create value. The objective of enterprise is assumed as the pursuit of maximum profit in economics. But this assumption cannot apply to management science appropriately, inconsistent with the operation objective of enterprise in reality. The economics has defined enterprise as "black box", which neglects the humanistic and social characteristics of inner management activities of organization, and thwarts the application of economics to management profoundly. In the light of organization management, especially in the modern economy and society, regarding the objective of creating value is a assumption more close to reality. Because the concept of value has more profuse connotation than the simplistic concept of profit, which can be embodied in the market value of company, in the products and service value created by company for customers or consumers, and even in the member's self-realization environment offered by the organization. In a nutshell, the objective of knowledge management corresponds with the objective of organization, namely creating value.

1.4.2 The knowledge management is a dynamic process. The knowledge innovation presupposes the acquisition and share of knowledge, while the knowledge application may be concurrent with the knowledge innovation. As a matter of fact, the knowledge management is a process that the manager and personnel exchange knowledge and experience, learn new knowledge and experience, and expose such new knowledge and experience on a certain organization platform for share, in order to increase the value of individual knowledge and the organization. So the knowledge management is a process of creation, collection, organization, dissemination, utilization of knowledge, which can enrich the knowledge resources of organization and continuously reinforce the knowledge competitiveness of organization and members.

1.4.3 The knowledge management involves all activities of organization, and needs all kinds of effective ways. According to the generalizations of Marshall and the like, there are at least six aspects within organization associated with knowledge as follows. The inner operation or research of organization and the development organization can generate knowledge; the necessary knowledge can be obtained by the acquisition and processing of original date within and without company; prior to application, the knowledge can be diverted formally by training or informally by socialization, and can be expressed in the form of report, graph and narration so that it is accessible; after verifying its validity, knowledge can be blended in program, system and control; based on the incentive measures and management arts, the stable development of organization culture will redound to normal running of different knowledge programs, while this culture also can evaluate, share, and use knowledge. In knowledge era, the knowledge has become the most important input factor and key asset and the knowledge holds sway over the value creation. So the organization must manage the knowledge and adopt various kinds of means to exploit and use the potential of knowledge resources.

1.4.4 The knowledge management not only involves internal organization knowledge, but involves external organization knowledge. In the modern economy, various kinds of forms and characteristics of the competition among enterprises loom. The strategic union of rivals or enterprises has formed a new trend, and the cooperation between enterprise and customer, or among providers, also impacts the operation of enterprise greatly. By the association between organization and the other external organization, institution or individual, the organization can not only obtain multitudinous available knowledge, but augment the creation value of organization by share and diversion of knowledge. The knowledge organization should be a learning-oriented organization. In fact, organization learning, conducive to promotion of competitiveness of organization, which cannot be confined to internal organization, should be extended to external organization and any other scope where knowledge may be used. The knowledge management of organization permeates any form of management, such as strategic management, market management, financial management, human resources management, production management, logistics management, information system management, which has become the center and focus of all types of managements.

2 The function of the knowledge management research of agricultural scientific research institution

2.1 Promoting the tacit knowledge explicit Transforming disordered unstructured existing tacit knowledge of agricultural scientific research institution into orderly structured knowledge, and realizing the orderly conversion between tacit knowledge and explicit knowledge, will undergird the knowledge management of agricultural scientific research institution.

2.2 Promoting the knowledge share among scientific research personnel By the realization of agricultural knowledge management research and partial prototype system function, it will make all the personnel each other know general knowledge and experience; give full play to personnel's knowledge, experience and potential; realize resources share so as to stave off repeated research and knowledge assets drain; make key projects integrated and awarded in order to quicken the process of innovation.

2.3 Developing knowledge management prototype system It is necessary to develop convenient shared channel and shared service platform for knowledge acquisition, which can provide theoretical and prototype system for the knowledge management construction of agricultural scientific research institution. We should offer a software system basic platform propitious to the application of modern information technology during the knowledge management construction of agricultural scientific research institution, and realize the shortcut application in the existing network environment, so as to promote the comprehensive competiveness and sustainable development of agricultural scientific research institution.

2.4 Researching the system of realizing the knowledge management By researching theory and model of agricultural knowledge management, using organization innovation methods, establishing learning-oriented organization, strengthening incentive mechanism, and providing security in terms of mechanism and system, we can enhance the efficiency and generation speed of new knowledge, and promote the extensive application of knowledge management in the management system reform of modern agricultural scientific research. The research program will inaugurate the knowledge management research of agricultural scientific research institution in China.

2.5 Managing the external knowledge by competitive intelligence By competitive intelligence, we can know the status of the rivals, relevant institution and business-related field research, manage the external knowledge effectively, know the enemy and yourself, and act with a well-defined objective in mind. By competitive intelligence, we can promote the knowledge management of agricultural scientific research institution and enhance its external competitiveness.

2.6 Training the talents of knowledge management for agricultural scientific research institution In agricultural scientific research institution, training a talents team familiar with and devoted to the knowledge management, will undeniably reinforce the impact of knowledge management on agricultural scientific research institution, make the concept of knowledge share and teamwork pervasive, and promote the technological innovation ability of agricultural scientific research institution in China.

2.7 Providing decision-making service on scientific research programs for leaders By the application of knowledge management, it pushes ahead the organization innovation and scientific research programs of agricultural scientific research institution. Meanwhile, it can make the leaders and managers know the business development status of institution, so as to diminish business repetition, promote external competitiveness, strengthen the overall coordinated ability, provide decision-making service, and promote comprehensive technological innovation ability[7].

3 The content and measures of the knowledge management research of agricultural scientific research institution

3.1 The content of the knowledge management research of agricultural scientific research institution The knowledge management of agricultural technology is an important component of national agricultural technology innovation system, which is to use the modern information technology to strategically reshuffle and construct the existing explicit and tacit knowledge resources; to use the sharing and building system to establish security system of knowledge decision-making and innovation. It is a continuous and accumulative process with public welfare and sharing characteristics, and an important task of promoting technology innovation. Specifically speaking, the content of the knowledge management research of agricultural scientific research institution is as follows.

3.1.1 Production and innovation of knowledge. It is to use the raw material of knowledge, and master the mutual relations among different knowledge, so as to produce and create new knowledge.

3.1.2 Acquisition and organization of knowledge. By means of various kinds of methods and modern information technology, we identify, obtain, and arrange the knowledge effectively. Meanwhile, the recessive knowledge attached to human brain, such as wisdom, manual skill, or organization management ability, is transformed into increasingly amassed knowledge base.

3.1.3 Dissemination and share of knowledge. It is to establish knowledge dissemination channel within and without the organization, disseminate various kinds of new organizations by virtue of many media and techniques, and propel each member to continuously learn and growing up by sharing knowledge in the organization.

3.1.4 Management of human resources. Regarding human, who play a leading part in the knowledge innovation, as the most important resources in the organization, it is beneficial to giving play to the creativity and potential of personnel, and creating the incentive mechanism and humanistic environment of knowledge share and innovation.

3.1.5 The construction and management of knowledge infrastructure It involves various kinds of knowledge management

systems and technical support during the process of collection, storage, retrieval, dissemination and use of knowledge. It also involves construction and management of knowledge base, exploration technology of knowledge, artificial intelligence technology, experts system, knowledge network and so on.

3.2 The measures of the knowledge management research of agricultural scientific research institution We should adopt effective encouraging measures to realize the share of knowledge and management experience; accumulate and take advantage of the past experience in the process of innovation and daily business; propel the knowledge production aiming at conducting technology innovation and promoting management efficiency; make knowledge blend with the development, research and service of products in institution or industry; establish experts information and network management system of experts knowledge classification within and without the institution; build and explore different types of knowledge bases of personnel, manager and customer; choose corresponding evaluation methods and conduct quantitative analysis of the value of different types of knowledge; set up effective management system in order to optimize and use knowledge assets rationally.

4 Conclusion

As the development of knowledge management, more and more people realize the importance of knowledge management to the systematic management and high-efficiency development of institution and department. The objective of knowledge management is to obtain appropriate knowledge in appropriate time and place. So the application of knowledge management to the study of agricultural scientific research institution, and incessant improvement of business and management procedure, can stir innovative thinking and put it into practice, which will beneficial to the enhancement of socio-economic profit dramatically.

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uniqueness, making the pillar industries better, bigger and stronger, and achieving a safe and ecological-friendly leading industry with high yield, high quality, high efficiency; moreover, the government should readjust and optimize agricultural structure, speed up the construction of an advantageous agricultural belt, actively develop characteristic agriculture, green food and ecological agriculture, as well as foster and expand leading industries[9].

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