

E-government and Knowledge Management

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Summery

Beginning from the e-government framework, this paper discusses the knowledge management for e-government development in significance and role. On this basis, the knowledge management conceptual model based on the e-government environment is setup, as well as the three sub-systems of the model, such as knowledge collection, knowledge arrangement and application, are analyzed.

Keywords:

Knowledge management, Electronic government, Model

Introduction

In recent years, Chinese e-government construction has got rapid development, and above the county level in most government departments have set up their own portal. However, from an overall point of view, Chinese current e-government construction and development is not satisfactory, which emphasis on publicity and construction, and ignore government services and knowledge management, can not meet administrative information sharing needs of the government, particularly administrative information sharing needs of the community, social efficiency is low. How to manage all government information resources effectively in the e-government, how to make users to facilitate the retrieval of information through e-government system, analysis and sharing better government services, how to enhance the image of the government, it is urgent need for the e-government construction and development of knowledge management.

1. E-government Framework

Electronic government is a general concept in the world, referring to the government's effective use of modern information and communication technologies, through various information services (such as telephone and the internet, public computer stations etc.), the government department, enterprises, and civil society organizations in its more convenient time, place and manner, the provision of automated information and other services consisting of a responsive, efficient and accountable, with a higher quality of service the government[1-2]. E-government framework of the general structure is composed of 2 supporting systems and 3 layers, 2 supporting systems are supporting policies and supporting technical standards, and 3 layers are information infrastructure layer, information management layer and information

application services layer.

- Supporting policies system. The so-called supporting policies system means that all existing policies the government is enacting. It is fundamental basis to build e-government processes and standards.
- Supporting technical standards system. The workflow of E-government needs information standardization and reliable security technology standards. Technical standards including electronic signatures, certification bill network security standards and others, is the second supporting system of E-government.
- Information infrastructure layer. E-government is established based on information technology. Information infrastructure layer includes: network technology, multimedia technology, internet technology, security control, database, data warehouse, data mining and online analytical processing technology, collaborative work skills, information exchange cross-platform technology, system integration technology, electronic payment technology, and so on.
- Information management layer. Information management layer includes: office automation management systems, collaborative systems, decision support systems, and information resources agency. This layer is mainly internal network work.
- Information application service layer. Information application service layer is built on information management layer, through the establishment of common external site on the Internet, belonging to the external Internet of the e-government. Information application service layer includes: information and online information collection, electronic procurement and tendering, electronic benefits payments, electronic tax, e-business, e-declaration, and so on.

2. The significance of knowledge management in E-government

E-government as a virtual organization to provide public management and public service, not normally engaged in the creation of material resources, have knowledge management system significant features. Knowledge management basing on the e-government environment is a new management concept and management methods, playing an important role in promoting the transformation of government functions, improving the government's efficiency and image. Specifically, the significance of implementation of knowledge management in e-government can be divided into the following three aspects.

2.1 To be conducive to enhance governments' competence

During the process of economic globalization, The competition of national comprehensive power is mainly reflected in the economic competition, and economic competitiveness depends on government's competition level. Under e-government environment, knowledge management swooped knowledge as the most important resource to maximize access and use of knowledge to improve the competitive power of the government, the government stressed that knowledge management knowledge at the core, take corresponding measures to encourage staff to work in continuous self-improvement and enhance the sense of competition, thereby enhancing the government's overall competitiveness, innovation capacity and contingency forces.

2.2 To be conducive to raise governments' service quality

Knowledge management running in e-government environment, is an electronic workflow to be controlled, stressed the cooperation between different departments and staff's awareness of cooperation. Knowledge management circulates around knowledge acquisition, knowledge analysis, knowledge processing, knowledge distribution and other means, to realize standardization of service experience and chief process, to increase government office efficiency and the quality of services [3].

2.3 To be conducive to promote healthy development of e-government

During the process of governance of modern governments, knowledge management is indispensable. Knowledge management plays a very important role in the shift of the government management paradigm and improving

governments' administrative capacity. Divorcing from knowledge management, would lead to various information resources isolated running, and that the electronic government is unable to form an organic whole. Knowledge management can build an effective knowledge precipitation, clear up various channels of information flow, realize knowledge sharing, and promote e-government's development.

3. The model of knowledge management of e-government

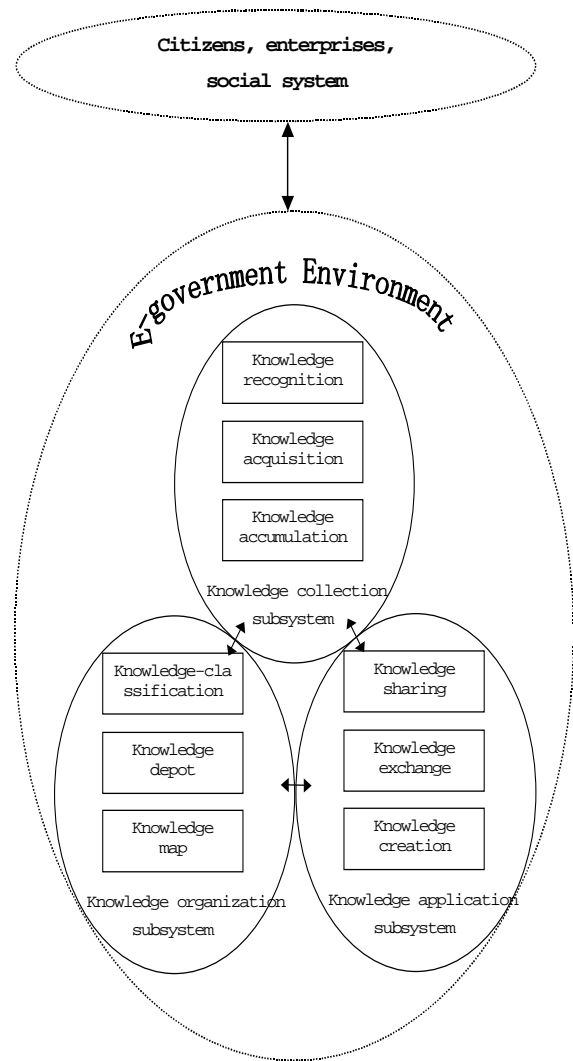


Fig.1. Knowledge management model of e-government

From a macroeconomic viewpoint, e-government's knowledge management process is similar to the enterprises' ones to a certain extent, but it is different in the object and purpose in essence. The former is to provide community service and the latter is to enhance

enterprise competitiveness and profitability [4-5]. On the basis of the software environment and the hardware environment of e-government, a knowledge management conceptual model composed of a knowledge-collection subsystem, a knowledge organization subsystem and a knowledge application subsystem, is set up (Fig1.). There are interdependent and mutually supporting relationships between three subsystems.

3.1 Knowledge collection subsystem

Knowledge collection subsystem is an input system of e-government knowledge management system, which is the foundation of knowledge management. The system focuses on the field of government knowledge. Its initial collection contains a wealth of knowledge and the information resources need to be identified and used by the other two systems. The subsystem includes knowledge Recognition, knowledge acquisition and knowledge accumulation three knowledge management processes.

- Knowledge recognition. Knowledge recognition is the first step in knowledge management. From the perspective of cognitive theory analysis, knowledge can be divided into explicit knowledge and tacit knowledge. Explicit knowledge can be used strictly to the data, formulas, language, and other expression symbols easy to be stored, exchanged and shared. Tacit knowledge is highly personalized and hard-formatted knowledge and it is rooted in personal experience, intuition, insight and values. Both overt or tacit knowledge is not the natural visibility, therefore, we must identify, make it transparent to create and lay the foundation for applications [6].
- Knowledge acquisition. Knowledge acquisition refers to access to knowledge from the external of the organization and to make it easy to use for the organization. E-government means access to knowledge through database, Internet and networking forum, BBS, BLOG, tele-education, search engines, network data mining [6]. Knowledge management of E-government is to capture the necessary knowledge and skills needed in government affair, does not have to care about where the knowledge is. It can easily access knowledge in a computer database, flows on the network and in the server to help the government to achieve maximum efficiency and scientific decision-making.
- Knowledge accumulation. Knowledge creation process of exporting the knowledge assets must be precipitated and stored in electronic government to be conducive to knowledge application and knowledge innovation. The dominant knowledge

systems produced through knowledge creation process and portfolio formation, can be stored in the e-government knowledge base in the form of documents. The biggest feature of tacit knowledge is hardly clear expressed by the symbol system. The governments need to particularly concern the staff holding tacit knowledge, in an effort to cultivate their loyalty and the sense of belonging, and to encourage them to accumulate knowledge.

3.2 Knowledge organization subsystem

Knowledge organization subsystem is the core of knowledge management, to orderly process medley of knowledge. The subsystem is a bridge connecting knowledge collection subsystem with knowledge application subsystem, and its function can directly influence the function of knowledge application subsystem, even the success of the entire knowledge management system. The subsystem includes knowledge classification, knowledge depot and knowledge map, three knowledge management processes.

- Knowledge classification. Knowledge classification is the base of effective application of knowledge. In the e-government activities, a lot of complicated knowledge will be produced. Knowledge classification according to contents and application is very useful for Civil servants in the administrative work, to rapidly get the retrieval of necessary knowledge and improve knowledge searching efficiency. They can further find or create new knowledge through knowledge mergers and knowledge decomposition.
- Knowledge depot. Knowledge depot is the government's electronic information databases. Knowledge depot generally include 3 kinds of contents: First, the government's electronic knowledge resources, including the institution, experience and wisdom of management and operation of e-government; Second, the internal organization of resources, including the E-government organizational structure, regulations, internal research literature, the department's internal information, etc.; Third, intelligence resources, including international policy developments, policy feedback, user demand and other details. In short, knowledge depot will make the organization's information and knowledge orderly, be conducive to the sharing and exchange of knowledge, the collaboration and communication among organizations.
- Knowledge map. Knowledge map is the navigation system of electronic knowledge resources, which

provides a learning environment and the road, to help staff and community users quickly find the necessary knowledge resources, show the distribution of resources of the whole e-government knowledge. Knowledge Map can also provide the system of knowledge depot browse and navigation for users, describe the flow of knowledge in e-government, express the knowledge of administrative process through charts. Knowledge map is a guide to the knowledge depot, as well as the key link constituting the knowledge management system.

3.3 Knowledge application subsystem

Knowledge application subsystem is an output system constituting the knowledge management system. Its user interface is the ultimate visible part. The subsystem colligates the results of the other two subsystems, clean up and organize related information, provide it to different power users. It can also create new knowledge on the basis of the other two subsystems. The subsystem includes knowledge sharing, knowledge exchange, and knowledge creation three knowledge management processes.

- Knowledge sharing. Knowledge sharing means that the information and knowledge of electronic government is as open as possible, so that each of a public officer has access to and uses the knowledge and information provided by other persons. Knowledge is power; this power is not from confidential knowledge, but from sharing knowledge. The biggest difference between knowledge and other curable material is its enlarging role through sharing. Owners will not lose their knowledge through sharing and free access to knowledge; instead knowledge will become more and more, access to the innovation effects of knowledge accumulation. In addition, knowledge is subjective; a kind of knowledge or experience may be not valuable to a person, but is very valuable to another person. Knowledge sharing is very conducive to the progress of the whole learning organization.
- Knowledge exchange. The key point of knowledge management is to establish the organizational structure and culture in e-government convenient to exchange knowledge for officials, and make the exchange and communication efficient through certain mechanism [5][7]. Knowledge and information will be improved and the knowledge owner will be inspired in the process of integration and exchange. Another function of knowledge exchange is to spread implicit knowledge in certain degrees.
- Knowledge creation. Knowledge can be created through the interaction between visible knowledge and implicit knowledge, which is known as Knowledge conversion. In the e-government environment, knowledge creation is a process of knowledge conversion, which includes four models (the socialization, externalization, combination and internalization). Specifically, socialization is referring to transformation from tacit knowledge to tacit knowledge; it is a process of sharing of experiences and pooling tacit knowledge. Externalization means that tacit knowledge converts to explicit knowledge, which is a process expressing tacit knowledge by concepts and language. Combination refers to create new knowledge through screening, adding, composition and classification, which is a process synthesizing the explicit knowledge system through the independent composition of explicit knowledge [6]. Internalization is a process the individuals absorbing explicit knowledge and converting it to tacit knowledge.

4. Conclusion

E-Government in China is following the logic found everywhere the State recognizes the potential of the Internet and of web-based activities to assist the development of the economy and society. E-Government with 'Chinese characteristics' means a much more prominent role for the State in the diffusion of Internet access and commercial usage. Internet access has been driven by State-sponsored investment in the telecommunications network and in the Golden Projects, China's information infrastructure, and now by the Government Online Project, and the Enterprise and Family Online Projects. In the early stage of these projects the focus is inevitably on the Government Online Project, which stretches from backend procurement to front-end e-citizenry. Ultimately, effective government is seen largely to depend upon the ability of knowledge management.

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