

**Research on Fuzzy Evaluation of Knowledge Management in Information  
System Project Management Based on Knowledge Management**

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*Abstract: With the advent of knowledge economy era and the rise of knowledge management, it is urgent to make full use of knowledge to improve the quality of project management. Therefore, it is very important to introduce knowledge management into information system project management. Knowledge management refers to the process of creating, acquiring and using knowledge in order to enhance organizational performance. For an enterprise, it is the process of capturing the relevant knowledge of an enterprise and then distributing the knowledge and skills to any place that can help the enterprise achieve its maximum output. In this paper, through the analysis of the needs of knowledge points in the software enterprise project management process, the overall design and planning of the project knowledge management system is carried out. The project knowledge management system is a new thing, which requires the personnel engaged in project management to have computer information technology capabilities and knowledge management capabilities in addition to project management techniques. It is required to realize the knowledge management system architecture in which knowledge management and information management can be integrated with each other.*

*Keywords: Knowledge Economy; Knowledge Management; Management Ability.*

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## **1. INTRODUCTION**

With the advent of knowledge economy era and the rise of knowledge management, it is urgent to make full use of knowledge to improve the quality of project management. Therefore, it is very important to introduce knowledge management into information system project management [1]. Knowledge management is the objective requirement of project management in modern software enterprises. Software project is an interdisciplinary and multi-intelligence behavior process. In this process, we need to constantly acquire and create knowledge, and apply it to practical work, so as to realize the value of knowledge [2]. If effective knowledge management can be implemented in the

construction project organization, it will not only help to reduce the knowledge fragments formed in the project management. Moreover, by sorting out and accumulating the messy knowledge, the tacit knowledge formed in the process of project execution can be further transformed into explicit knowledge. And eventually formed the accumulation of knowledge of the system, forming part of the "organizational memory of organizational design projects" [3]. In the new era, knowledge has become the key to success and the company's most important resource. This kind of resource is so precious that we should not let it develop naturally [4]. An effective knowledge management system is an indispensable platform to promote the integration of various factors and support the implementation of knowledge management in science and technology project management.

The rise of knowledge management in software enterprises marks that China's software project management has entered a new stage in order to adapt to the new situation of knowledge economy. Carneiro believes that the work process of the project is the process of knowledge creation, and the unique work experience of each project will bring rich experience to the organization. Companies need to accurately understand the strong competitive advantage that knowledge brings [5]. Knowledge needs to be updated at any time, to play its role in operations, and to spread to other parts of the organization. Companies should manage knowledge systematically as they manage other key assets [6]. The application system established according to the traditional information system development method can not meet the needs of scientific and technological project management work well. In 1996, Sanchez R proposed an engineering project from project establishment, design, construction to completion, usually in a matter of months or even years [7]. The knowledge system and its management activities in science and technology project management should be systematically studied from the perspective of knowledge management, and the developed application system should be positioned as a knowledge management system. The application system based on this idea plays an important role in improving the management of scientific and technological projects [8]. Provide a good collaborative working environment for project participants, improve the overall economic benefits and work efficiency of the project.

## **2. MATERIALS AND METHODS**

Knowledge management refers to the process of creating, acquiring, and using knowledge in order to enhance organizational performance. For the enterprise, it is the process of capturing the knowledge of a company and then distributing that knowledge and skills to any place that can help the company achieve maximum output. In the face of the challenges of the knowledge economy, project management can only break through the traditional concepts and management methods in order to be invincible in the wave of the times. Provides Internet users with fast retrieval, search, and recommendation services by indexing information on the global Internet. Its core appeal is to provide users with more complete, faster and more accurate information. Therefore, knowledge management should be closely integrated with business processes to function effectively [9]. Project management is integrated into the strategies of many companies and government organizations through portfolio or plan management. And other related sectors, such as manufacturing, human resources, law, finance. Knowledge management system links the information in the knowledge base with the catalogue through the knowledge map. Every employee with different positions and personalities can configure his own knowledge base system freely. From the relationship between knowledge and

business process, scientific and technological knowledge is the object of business process management, and management knowledge is the guarantee for the smooth implementation of business process.

Data mining process in knowledge management analysis generally consists of five main stages: identifying the object of knowledge management analysis, data preparation, data mining, result analysis and knowledge assimilation, as shown in Figure 1.

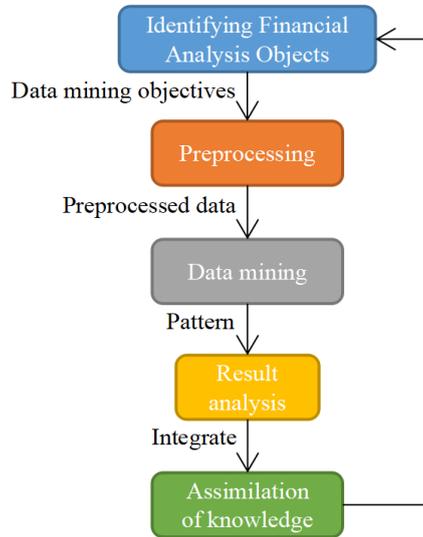


Figure 1 Data mining process in knowledge management analysis and management

There are two ways to spread knowledge, one is called transformation of knowledge, and the other is communication between people. The feasibility study itself is a study of the technical, economic and other feasibility of the proposed project. Its purpose is to provide investors with a basis for decision-making, and to provide basis and basic information for bank loans, cooperative contracts, engineering design, etc. Each area has its own unique business logic in actual project development. For this reason, the code is highly coupled in many projects. And if it can't be separated from specific business logic, code or functions that might otherwise be reused will be difficult to reuse. The existing knowledge management system architecture usually separates the knowledge management system from the information management system, or realizes the connection between the knowledge management system and the information system through the interface as an independent module [10]. Even if similar problems have been encountered in other projects, it is difficult to draw lessons from them.

In order to establish the testing mechanism of the model, the knowledge management analysis parameters of sample enterprises are used as input data for the value evaluation of knowledge management analysis. And pick up the output data and learning sample data for comparative analysis, as shown in Table 1.

Table 1 Enterprise knowledge management analysis model test

Sample result	Relative error(%)	Model output
0.706	4.45	0.772
0.735	3.48	0.819

In the process of project management, knowledge is generally not taken seriously, and many explicit knowledge cannot be shared. And tacit knowledge is not easy to be discovered and applied, resulting in a great waste of knowledge. Figure 2 shows the architecture model of the relationship between competence and knowledge.

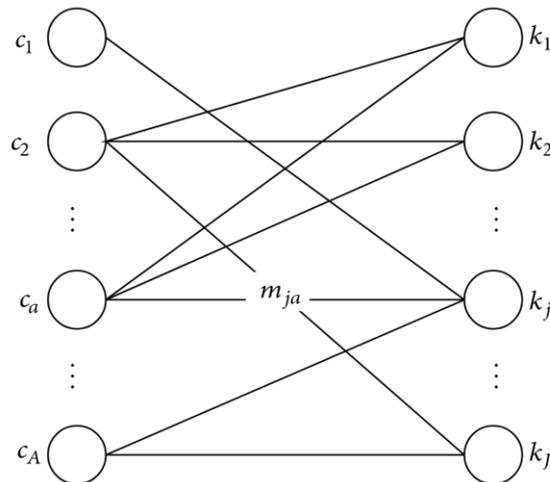


Figure 2 Architecture model of capacity relationship and knowledge relationship

The security requirements of the system are reflected in the control of the release and modification of information. And the release of key information must be reviewed to prevent damage due to misuse or ulterior motives. Causes damage to critical information or the spread of inappropriate information. The existence of any organization is targeted. The goal of the organization is achieved by the majority, and the organization's goals can be achieved if only one person's efforts can be achieved. Achieving greater organizational results is an important part of human resource management. The way to achieve comprehensive organizational effect is to start from the overall goal of the organization, decompose the tasks of the members layer by layer, and manage and motivate them by means of salary. Using business process elements to organize and manage management knowledge can not only reduce the difficulty of knowledge organization, but also be an effective way to realize the organic combination of knowledge management and business process management. Whether a knowledge management system is effective or not can only be tested in practice, and only through practice can we better find the theoretical imperfections. Further work should also be more closely linked to actual development. In practice, the related problems of knowledge management system are further considered.

### 3. RESULT ANALYSIS AND DISCUSSION

The working process of information system project management is often related to the life cycle of information system and the stage division of system construction process. Under the circumstance of comprehensive integration of domestic and foreign markets, foreign enterprises must take advantage of their advantages in capital, technology, management, talents and services to occupy our market, especially in the general contracting market. With the advent of the era of knowledge economy, the informationization of project management has become an inevitable trend. This brings many new characteristics to project management. With the rapid expansion of information, project management

is increasingly dependent on computer tools. In a sense, its competition has become an information war. In the management of scientific and technological projects, knowledge management is not an independent part of the business process, but scattered throughout the business process. It is an integral part of business activities with data management and information management. Project management will be a travel companion of the knowledge economy. Project management in the era of knowledge economy is to improve resilience and innovation through knowledge sharing and collective intelligence.

The application of information technology is only in the early stages of lack of advanced knowledge management tools. It is necessary to uniformly deploy knowledge management norms at the enterprise level, and support relevant consulting and training programs to improve the awareness and level of knowledge management in various departments. Solidify project results through a knowledge management system. The cognitive and social capabilities of the nodes and the knowledge vectors will be randomly set. The hierarchical structure of knowledge is shown in Figure 3.

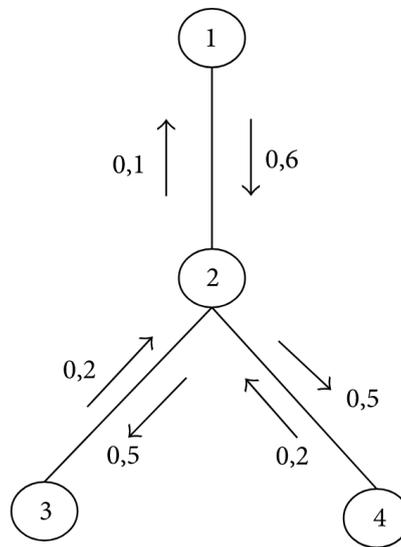


Figure 3 Hierarchy of knowledge

Data provider companies can select and combine knowledge data conversion and storage methods according to their own economic, technical, and environmental constraints. As shown in table 2.

Table 2 Knowledge data conversion and storage method selection and combination scheme

Transformation mode	File system storage	Database storage	Relational data storage
Manual conversion	2	2	1
Converter Conversion	4	2	4
Integrated transformation	1	3	2

Knowledge management is the top priority of knowledge management. However, a considerable number of group companies suffer from loose management of knowledge due to the limitations of management models and means. The recent business performance of a company is shown in Figure 4.

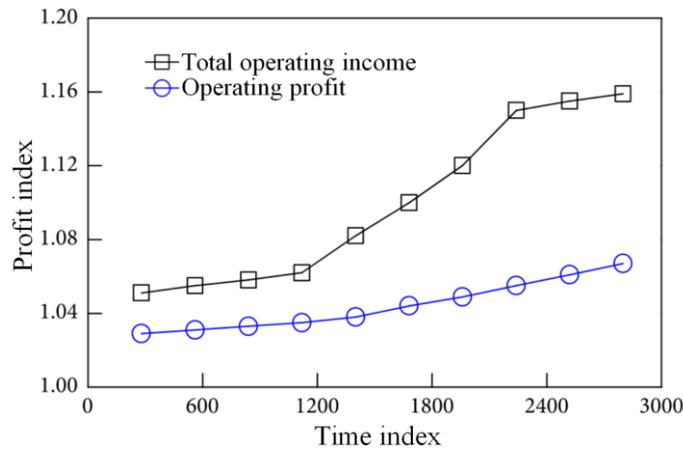


Figure 4 Business performance

In the entire circulatory system, knowledge strategy is the core strategy in the enterprise's functional strategy, providing knowledge support for corporate strategy and managing the value of economic activities. According to the architecture and data operation level of the previous section system, the knowledge analysis data shown in Table 3 is obtained.

Table 3 Analysis and evaluation of enterprise knowledge

Factor	Knowledge situation	Liabilities	Profit	Loan
Evaluate	0.631	0.547	0.412	0.587

Facing the increasingly fierce market competition, Chinese enterprises must be market-oriented, improve their management level and change their business model. Strengthen resilience, self-improvement and enterprising. Learn to survive in competition and seek development in struggle. Knowledge economy makes less use of natural resources and human resources, but pays more attention to the use of intellectual resources. Knowledge generates new ideas, new achievements and new wealth. Knowledge management plays a leading role in information system project management. Whether it is a process based on the stage of the life cycle or a process based on the project management process. The intermediate process documents generated during the project process are not managed in accordance with the knowledge classification, and no unified process document template is developed. The engineering project management service method is to prepare a feasibility study report for the owner in the decision-making stage of the project according to the contract, and carry out feasibility analysis and project planning. This requires a knowledge management system architecture in which knowledge management and information management can be integrated. The existing knowledge management system architecture can not meet the needs of knowledge management systems in science and technology project management.

**4. CONCLUSION**

In this paper, through the analysis of the needs of knowledge points in the software enterprise project management process, the overall design and planning of the project knowledge management system is carried out. It is hoped that this research will solve the problem of some project knowledge management system problems existing in software enterprises. Knowledge integration in project management is to integrate the knowledge and information needed for project management from

outside the project team to help the project team to manage effectively. Integrate the newly generated knowledge and information required for project management within the project team. With the advent of the era of knowledge economy, knowledge management and engineering project management are increasingly connected. After the integration of knowledge management, project management has produced new characteristics: informatization, flexibility and agility. Project knowledge management system is a new thing, which requires project management personnel to have not only project management technology, but also computer information technology and knowledge management capabilities. Therefore, it is necessary to strengthen the training of information system and the construction of project management personnel. While realizing the systematic management of computer, project management still needs to strengthen the manual management of raw materials. They should complement each other and complement each other.

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