Construction of Engineering Project Management Informatization

Xinghua Du¹, Miaoling Han¹, Guofeng Zhang¹, Yin Zhang²* and Mingli Ding²
¹Beijing Spacecrafts, Beijing, 100000, China
²Harbin Institute of Technology, Harbin, Heilongjiang, 150001, China
*Corresponding author’s e-mail: 445928455@qq.com

Abstract. Engineering project management informatization can timely discover problems in engineering projects, so as to solve problems in a timely manner, establish a good image for the company, enhance its competitiveness, and promote the rapid development of China's engineering industry. Based on this, the paper carried out the current situation and problems of the current project management informatization construction of a detailed analysis and put forward the corresponding countermeasures, in order to better promote the development of China's modernization project management and improvement.

1. Introduction
At present, the number of engineering projects in China is gradually increasing, and it is very important to improve the management level of engineering projects. Applying advanced information technology to project management, can make the management level greatly improved and the quality of engineering projects will be significantly improved. However, at present, the information management of engineering projects in China is still in the early stage of exploration. Not only to the competition among domestic enterprises, but also faces strong foreign competition. As far as the current domestic science and technology is concerned, compared with foreign countries, many management software have a large gap. The management model is uniform and the information technology is not mature enough. These have made enterprises have no advantage in competition and cannot achieve the goals that to be achieved. Therefore, it is extremely urgent to speed up the information management of engineering projects in China. We should learn and introduce advanced foreign technology, and at the same time continue to innovate ourselves to solve the problems in China's information management and reduce the gap between us and foreign countries.

2. Problems in the realization of informatization in project management
In foreign countries, the management of engineering project information management is closely linked. From the beginning to the end of the project, managers can refer to the information management system to solve various problems encountered in the project. However, in China, this level of technology is still not reached. China's big data is just getting started, and many links are not mature enough, so that there is a lack of links between enterprises and in various engineering links, resulting in managers not considering the decision-making of each link. So, which affects the progress of the project. In the information management of engineering projects, the construction, design, supervision and consultation in the project are independent of each other. All of them are seeking benefits for this link, they are not able to connect the entire project management role, but also bring some difficulties
to the integration of information management. It has affected the overall development progress of China's engineering information management.

2.1. Engineering project technology is still relatively backward
As engineering project management becomes more and more modern, many of work is carried out by computer. This includes the processing of complex relationships, the storage and use of various information. Therefore, it is necessary to hire professionals to manage. However, the personnel who are familiar with information technology and understand project management are extremely lacking. The programs in the process of enterprise informatization cannot be implemented in time, so the overall innovation capability is far from the actual requirements.

2.2. Do not pay attention to the feasibility study of engineering projects
Engineering project feasibility study, It main purpose is to provide investors with reliable technical and data support, while providing a basic basis for bank loans. However, many investors in China do not pay much attention to the feasibility study of engineering projects, blindly investing, causing unnecessary economic losses, and may even pose a safety hazard for the subsequent construction.

2.3. Common problem in consciousness
At present, most companies are not aware of the importance of information construction in project management. They generally believe that the relevant information management software is more expensive. It believes that this information management model can not bring economic benefits to enterprises in a short time, and only increases the economic burden. Therefore, it is unwilling to increase investment in the construction of engineering project management information.

3. Countermeasures for information management of engineering projects

3.1. Introduce the idea of project management informatization
The framework of project management is approximately divided into management model, management organization, management system, and management responsibilities. As the engineering industry itself has many branches, there are great difficulties in management. Therefore, this problem can be solved by means of advanced information management systems. The information management of engineering projects can not only connect various departments better, but also realize the integration, classification and sharing of engineering information. In addition, we must continue to improve the existing enterprise information management, so as to ensure that the instructions issued by the company are timely and accurate to the employees, and improve the efficiency of construction projects. It can be seen that it is extremely urgent to establish and improve an enterprise information management system.

3.2. Establish corporate management organizational culture and standardization
Enterprice management organization culture is very important to enterprises. Due to the infiltration of information management mode, enterprises need to adjust the organization culture, so as to avoid management conflicts between them. Moreover, for engineering enterprises, the information management of engineering projects is the basis of organization culture management, which cannot be separated from it. Besides, standards should be established for the informatization of engineering enterprises to promote their rapid development.

3.3. Improve project management mode and system
The mode of the project management is determined by the content of each project, each project will have different metrics. When carrying out the management mode, it is necessary to combine the actual implementation of the relevant projects and establish management measures according to local conditions. Strictly follow the standard management model, and contact the objective actual situation
to carry out orderly and standardized management. For the special positions in the project, it is necessary to pay attention to management measures. The necessary training can be carried out when to ensure that each person has a high level.

In the process of project information management, pay attention to the implementation of the responsibility system, clarify the distribution of responsibilities, implement responsibilities to individuals, and motivate managers to be responsible. According to the rules and regulations formulated by various departments of the enterprise on the project, the project management system and regulations shall be further standardized and improved, and the system shall be handled strictly in accordance with the system. According to the characteristics of the project itself, classified the project management, clarify the specific steps of various project management, and formulate standardized work processes to ensure that the project management work is standardized.

3.4. Link project management with international standards
International project management is mainly developed in the 1950s. Especially in the 1960s, the US government adopted CPM and PERT technologies to assist the Apollo Mission. After the successful implementation of this program, project management began to cause a learning frenzy around the world. Now, after half a century of development, international engineering project management has gradually become more standardized and integrated.

In order to make our engineering management project conform to the international development trend and survive in a market with great competitiveness, learning advanced international management technology is the primary prerequisite. This can not only improve our engineering project management ability, but also make our engineering management adapt to the international situation. At the same time, we should fully understand international regulation, so that we can be protected by law when we go to the international market. Then, it is necessary to improve the project management system in accordance with the international advanced management system and the development of the enterprise, strive to improve its own technology and penetrate it into the entire project construction.

3.5. Strengthen investment and improve project management application research
The infrastructure is incomplete in the project, which not only affects the project management work, but also affects the progress of the project. In order to ensure the continuous improvement of the level of project management information construction, it is necessary to gradually increase investment and improve various infrastructures, which is related to the normal operation of project management. We should fully consider the investment in infrastructure from the perspective of profitability, in the budget time, the information infrastructure costs will be included in the cost accounting section. By increasing investment and accelerating the pace of infrastructure construction, it can set a good foundation for the construction of engineering project management information.

Promoting project management information construction also needs to strengthen the application research of project management information technology. Project management can be carried out by using information technology such as voice recognition and MIS system, It can not only reduce the use and processing of documents, greatly reduce the labor intensity, but also avoid the error caused by the repeated input of the same data, effectively improving the cost and completion efficiency of the project.

3.6. Improve the quality level of project management personnel
Project management personnel is an important executor of material management, therefore, the quality of project management personnel directly determines the efficiency and level of project management. In practice, project management personnel should have high ideological quality and responsibility for their work, and link their own interests with corporate interests. At the same time, project management personnel must also have good business quality, effectively adapt to the operating environment, have an in-depth understanding of the types and functions of construction projects, establish scientific and correct awareness of quality and cost. In addition, project management requires high-quality
management personnel. Therefore, it is necessary to introduce professional talents in information management to improve the quality of management personnel. Analysis from information and application of new software, it is very important for the development of project management to introduce, manage and make good use of professional talents. The standardized operation, scientific and rational allocation, and comprehensive accounting treatment, which promotes the comprehensive development of materials and provides guarantees for the economic benefits of project. It is conducive to the construction of a relatively mature management system and the standardization of the talent management work system.

3.7. Establish a perfect project management information system

First of all, it is necessary to strengthen the construction of project management. Informatization, improve the inventory accounting management capabilities, and carefully analyze the inventory management work to ensure that the project management work is more scientific. Relevant departments should based on the current situation of work, pay more attention to key and difficult work in the construction project information management system, so as to establish a more perfect mechanism to ensure that the information system has a good application effect. In the application process of information system, not only to ensure the stability of the system operation, but also to maintain and update the project management system in time. At the same time, enterprises should continue to innovate, promote the further development of project management, and promote the project management information system to be more scientific and reasonable. Ensure that the project information management system can effectively meet the actual needs, continuously integrate new technologies into the project management information system, continuously innovate and improve the level of informatization construction.

4. Conclusion

To sum up, due to the dynamic, decentralized and multi-information characteristics of engineering project management. In order to ensure accurate work quality and project work efficiency, it is necessary to use information management technology to quickly collect and organize data. Engineering enterprises should also attach great importance to the application of advanced engineering project management information construction to their own enterprise development. Only in this way can enterprises become bigger and bigger and promote the development of China's engineering project management.

References

[1] Xu Xiaoliang. (2014) Preliminary study on the construction of engineering project management information. Chinese and foreign entrepreneurs, 2: 121-121.
[2] Zhao Xueying, Xie Wenjing. (2014) Discussion on the Construction of Engineering Project Management Information in China. Private Science and Technology, 12: 142-142.
[3] Xu Jinghua. (2017) Analysis on the development of construction project management informatization. Science and Technology, 09: 108-108.
[4] Fu Yun. (2017) Analysis of information construction in current project management. Smart City, 2: 310-310.
[5] Wang Yaoxin. (2005) Problems and Countermeasures in Current Domestic Engineering Management. Journal of Lishui University, 5.
[6] Zhao Li, Bi Xianglin, Lu Jixiang. (2011) Parallel construction project management model research. Project Management Technology, 1: 59-63.