

# Research on Management Informatization of Construction Engineering

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**Abstract.** With the development of computer technology and modern enterprise, the information technology of enterprise management has gradually been taken seriously. The information construction of construction engineering management reflects the goal of construction and building industry development. The articles analysis the problems in information construction of construction engineering management, analyzes the shortcomings in information construction in China's construction project management and then put forward some feasible suggestions

## Introduction

With the gradually accelerating pace of China's information technology, construction companies have also have introduced the concept of information management, many companies set up internal LAN, and even some enterprises to introduce or develop their own information management systems, the initial realization of enterprise information transfer the network. At the same time, a large number of professional color management software has a strong start in daily work in the construction business, and gradually play a very important role, but the software mostly limited to use in building corporate functional departments, and as a building enterprise development and survival-based project department in project management aspects of information technology, but with the developed countries there is a considerable gap.

## The Definition of Management Information of Construction Engineering

The management information of construction project produced in the 1980's, after 30 years of development, China's construction management constantly improve the level of information and information technology in the management of construction projects has also been expanded. With the development of information technology, information technology, business development for all walks of life have had a significant impact on our building project is no exception. Construction project management is a complex work, including the construction schedule management, construction quality management, construction technology management, etc., to achieve the construction project management information is a long and arduous task.

## The Benefits Generated by Management Information of Construction Engineering

Construction project management information to achieve significant economic and social benefits:

Shorten the construction period, to optimize resource allocation and network construction, reduce slowdown and rework, and shorten the construction period.

Project Cost savings - the use of online bidding system to reduce procurement costs, enhance infrastructure investment and cost control by the financial management system, to achieve rapid project accounts. It is understood that the US government use of online procurement costs an average savings of 10 percent, the Chinese government in 2002 to about 100 billion yuan of government procurement scale, if the use of online procurement, expenditure savings of 1 billion yuan.

To ensure project quality - now building products has gradually entered the fine production stage, building products have become sophisticated product requires fine processing, production management for the construction industry made increasing demands.

The work is efficiency, timely and accurate decision-making - computer, network, monitoring the monitoring system to ensure that the share, accuracy, timeliness, uniqueness and convenience of construction management information, greatly improving the efficiency of business management and leadership decision science sex. Since the application, general managers and IT decision makers can simultaneously access to information, so that decisions can be macroscopic of microscopic, macroscopic decision microcosmic.

Avoid information asymmetry - build e-commerce platform, bidding information may be publicly available on the Internet, tendering, bidding and evaluation are completed online, can ensure an open and transparent information, the right people will thus greatly by tender restriction effectively limits the "rent-seeking" phenomenon.

### **The Status of Management Information of Construction Engineering**

In China, the construction of the field of information technology to promote the application of computer technology from the beginning. In 1996, all "Construction Technology Policy Outline (1996-2010)" issued by the Ministry of Construction of 20, there is one that is "to promote the application of computer technology," but has not made clear the concept of building the field of information technology. February 2001, the Ministry of Construction issued the "basic elements of construction work in the field of information technology", the first time explicitly put forward the concept of building the field of information technology mountain.

Currently, the construction industry most companies have their own computer systems and software. MIS survey and design can be used in the design of the unit personnel information, project design information, design information and design review process and so systematic management; construction management in most companies currently using or traditional information management methods, namely Information from its production, finishing, processing and transfer to the retrieval and use are the use of paper-made, only a few enterprise applications such as P3, PROJECT software, such as site management, in the process, the information in a relatively slow speed of flow ; our engineering design and construction supervision and compare the application of information technology started late and relatively weak. Supervision mobile, a project site three or four supervisors, with the portable computer records the day's tasks and outcomes are rare; and the general software market supervision software is quite lacking.

Overall, therefore, China's construction project management information technology is still in its infancy, but some companies to varying degrees, in isolation, the use of a part of the information technology, there is no sharing of information, communication and interaction, and information technology as well as a considerable distance way to go.

### **The Problems in China's Management Information of Construction Project**

**The computer application range is limited.** In the construction project management, application of computer technology also has been largely restricted to the management information system is only in terms of positioning information query and report printing, there is a big shortage in collecting, collating of information data and can not and construction market operational changes combine to provide a scientific basis for the construction enterprise management decisions.

**The management system is poor interactive.** Construction project management information, the management system is poor interaction between departments, between the supplier and the construction market, there are still many problems. On the application of computer technology, many enterprises have established a local area network, combined with project management systems, but the limited scope of the information flow, generally confined to the project manager and site internal field flow, information sharing has been largely restricted to the enterprise Business confined to a lesser extent, the construction market can not achieve the goal of sharing of information resources.

**There are many errors in management information of construction.** Management of information technology in the construction projects, many companies will information and computer

LAN equate. In the construction process, the majority of engineering and design units, construction units, supervision units, the exchange of information between the owner still use paper-way, and not because of improving the level of information is changed. In the information management, the fundamental premise is digitized, the information will be stored in the electronic media resources, and the exchange of information should be implemented via a computer network. However, China's current information management point of view, only be seen as building information technology project management tool, and did not cause changes in the construction project management model. In short, construction management information, there are still many problems, such as the application range is narrow, low level of information sharing, the use of information technology, there are still significant limitations affecting the increase of construction management level of information.

### **The Measures to Optimize the Management Informationizing of Construction Engineering**

**Set clear objectives of the management information of construction project.** Construction project management information construction, construction management should first define the goal of information in the national key investment projects to further promote the construction works of the management of information technology to the project cycle as an object, as the paperless information an important part of building in the exchange of information, the engineering design units, construction units, supervision units, the exchange of information should be the owner of the electronic media in a manner to receive and submit information, all the information is stored in the corresponding database, easy to use and share information. The most important goal is the construction management information on the basis of the information sharing, reduce operating costs, improve business efficiency and quality, enhance the comprehensive competitiveness of enterprises.

**Establish and improve construction management system.** Construction project management information technology is not only a technological change, but also innovative enterprise management mode, in order to accomplish this goal, the construction management, it should change the traditional way of management and thinking. Construction project management information technology not only need to establish a sound corporate leadership mechanism and management system, you also need the joint efforts of all staff. In the overall planning, the system forward in order to promote the development of construction management information construction.

**Set the construction project management as the core content.** Project management is central to building enterprise project management. In project management, it should be based on the actual situation of the project, the rational design and planning of information management systems, including planning and statistics, material management, machinery management, labor management, contract budgeting, cost analysis, construction management, security management, process management, quality control, system maintenance and so on. It should also be provided for the project management of various departments of a unified work software, during construction projects, the objective of strengthening the progress of the project, quality, cost, safety, control of information on the factors of production projects effectively management, promote the development of the project intensive, meticulous management.

**Speed up information systems and software development.** Construction industry, especially highway construction, railway engineering susceptible to environmental factors, such as housing construction, municipal engineering susceptible to geological conditions, weather changes, noise, construction time limit, limit environmental and other requirements, which would be the capital budget, project schedule impact. Because of poor adaptability foreign software, it is difficult to meet the parameters change, have a significant impact on the construction of the building project. Therefore, we should accelerate the domestic information systems and software development. In information systems, according to the actual situation of China's construction, adjusting the corresponding parameters, allowing the user to reconfigure the parameters, so that we can ensure the accuracy of the parameters, to reduce costs construction engineering enterprise data analysis. At the same time, you should also pay close attention to the progress, development costs, the project will

have been completed in the amount of cost accounting, and budget cost, planned cost comparison, strengthen cost control to improve the effectiveness of building works.

**Promote the management information of construction project from the business.** Construction project management information construction, should be based on the operation of enterprises, rational planning objectives and the management of enterprise information management systems, must not Tandaqiuquan, blind copy. From the situation of China's construction industry information construction point of view, many enterprises to establish a management information system and the corporate LAN, the initial realization of the office automation. But many companies use information technology, there are still significant limitations, low level of integration of information systems, information technology level is also very restricted. Therefore, construction management, information technology should be starting the actual situation of enterprises, continue to improve and advance information technology achievements, promote enterprise specialized systems reengineering and optimization. Meanwhile, enterprises should also be combined with long-term development goals, to carry out information technology. In information technology, companies can take advantage of the government, the public resources of society to participate in the modern financial payment systems, network public service systems, social electronic authentication system, credit system, to promote the construction project management, information technology development.

**The government should co-ordinate the planning and promote information technology strategy.** In a market economy, competition among enterprises has evolved into a competitive supply chain and supply chain. Information technology is not a company and an industry can achieve, but requires the participation of the entire supply chain companies. Therefore, construction management, information technology needs in the government overall planning, under the unified arrangements of the integrated enterprise resource together, unified management, in order to comprehensively promote information technology.

## Conclusion

From the case of information management technology of construction project in our country, the application of computer technology is limited and it affected the efficiency and quality of our construction project management. Therefore, the development of the construction industry should be based on the actual situation of construction enterprises and under the unified arrangements and overall planning of the government, establish and improve construction management system, speed up information systems and software development to promote the process of management information of construction, promote the information management standards of building enterprise.

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